The Briefing Book

on

PWSA Restructuring Options

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IMG™

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The Briefing Book on PWSA Restructuring Options

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Summary of the PWSA Restructuring Options

Overview

The restructuring options for PWSA range from modest to extensive, and from public to private. It is fair to assume that each has their unique advantages and disadvantages for Pittsburgh's water and sewer ratepayers. The basic options are detailed below, along with a brief narrative on their attributes. They are not shown in any particular order, other than that similar options are grouped together by letter.

As the Panel reviews these options, it is important for it to separate PWSA's enormous organizational problems from the physical problems of its water and sewer system. They are two different but related issues. The latter will require more money than Pittsburgh's water ratepayers are likely to grant to any restructuring partner until the PWSA's organizational problems – governance, management, staff, systems and procedures -- are addressed. Moreover, the quality of the organization -- public or private -- strongly influences the efficiency and effectiveness of the capital program: high-performing utilities are consistently better asset managers, with consequently lower water and sewer rates for the same level of service. Accordingly, they are more respected stewards of their ratepayers' money. Pittsburgh's water rates *will* increase over the coming decades, but the size of the increases, like the cost of the long-term capital improvement program, are not invariant. The restructuring option chosen by the Panel will make a big difference.

Option A1. Transfer to/Creation of a Private Non-Profit Utility

Indianapolis restructured its water and sewer utility by transferring it to Citizens Energy Group, a private, not-profit "public charitable trust." Established in 1887 as Consumers Gas Trust, the entity was created by a few of the city's industry barons to "protect the gas company assets from takeover by monopolies like Standard Oil and from political patronage." In 1906 it was renamed Citizens Gas Trust, and later became Citizens Energy Group as it acquired other services. In 2011, it acquired all of the City's municipal water and sewer assets and operations (previously performed under a private operating contract) for $1.9 Billion. It now provides almost all of the Greater Indianapolis metro area's gas, water and sewer services. All employees are employees of Citizens. Its rates are regulated by the Indiana Utility Regulatory Commission.

Because Citizens is a public charitable trust, it is able to issue tax-exempt bonds and is exempt from federal, state and local taxes, although it does make an annual Payment In Lieu of Taxes ("PILOT") to the unified City-County government. Its Board of Directors is appointed by a self-perpetuating and politically-independent Board of Trustees. Dan Evans, President of Citizens Energy Group's Board of Trustees, will be speaking to the Panel at its

September 12 meeting along with Lauren Brookey, a member of the Tulsa Metropolitan Utility Authority board and chairperson of its Utility Enterprise Initiative.

There is no comparable public charitable trust in Pittsburgh (one with existing infrastructure assets and a utility operating structure). Accordingly, one would have to be created for the specific purpose of owning the assets and managing and operating the water utility. In effect, it would differ from the current PWSA structure in that the documents creating the trust would likely ensure its full governance and operating independence (i.e., no civil service rules or residency requirements), require that the necessary infrastructure investments be made (regardless of rate impact), be regulated by the PUC, and include provisions making the future transfer of assets relatively difficult.

Note finally that such a non-profit need not be organized as a public trust. It can be structured similarly to a non-profit hospital corporation, such as UMPC, Catholic Health Services, Kaiser Permanente, Adventist Health Systems and others. These non-profits are large and well-capitalized operating entities, with highly professionalized management, staff and systems.

Option A2. Transfer to a Local Regulated Investor-Owned Utility

This option involves permanently transferring all assets and operations of PWSA to a local investor-owned PUC-regulated utility company, such as Peoples Gas, Pennsylvania American Water, Duquesne Light and Aqua America, among others. The avowed advantages of this approach include existing corporate structures and resources to manage the water utility, and most of their Pittsburgh customers are identical to PWSA's. Perhaps most importantly, PWSA is facing billions of dollars in near-term costs for updating its aging infrastructure, making anyone with large existing customer bases an attractive restructuring partner since those billions can be spread across a base considerably larger than PWSA's. While sharing the costs with non-PWSA customers may be economical for Pittsburgh's own citizens, there may be resistance from the investor-owned utilities' current customers toward bearing those costs. However, the PUC has approved similar local capital improvement cost-sharing in the past.

One important question is what *type* of transfer should take place: sale or long-term lease. Regulated utilities strongly prefer that fee-simple title to the assets be transferred (permanently) rather than via a limited-term lease, as there would then be no question about how the PWSA's assets should be carried on the utility's books and how the PUC would treat the assets in its regulatory approach. Moreover, the leasehold interest would likely be strong enough to place PWSA's assets into the local property tax base regardless of whether the transfer was fee-simple. However, it is not clear yet how these utilities would view a long-term lease alternative, even if the lease were for 50 years (the likely minimum for a system with PWSA's enormous needs) or more.

Option A3. Transfer to an Existing Regional Government Entity

Many governments have transferred their struggling water utilities to another government operating entity, typically a large regional authority with an existing customer base for the same or similar service. However, with the high level of fragmentation among Greater Pittsburgh water authorities, the only potential restructuring partner of sufficient scale is ALCOSAN. IMG has yet to meet with ALCOSAN, and defers any further comment on that option until the meetings occur.

Option B1. Aggressive Internal Improvement

Internal improvement is the most common restructuring option when water utilities are faced with a crisis, whether native (service and capital needs) or external (the threat of privatization). The cost, effectiveness, sincerity and durability of these efforts has varied widely over the past 30 years. It can include radical changes that extend from board-level governance to the maintenance shop floor, sometimes requiring city charter amendments, to modest tweaks to operating protocols, hiring practices and information systems.

The most important question for any internal improvement is its *durability*. Public systems suddenly threatened by privatization often launch into quick-fix program designed to make privatization less necessary or otherwise not worth the bother. Some are more thoughtful, and are part of the public-operator's proposal in a managed competition. But maintaining the promised higher performance level is always challenging since utility staff cannot realistically be held to long-term contractual commitments. This is especially true when such commitments might necessitate new staff levels, new compensation packages, new investment, and the changing of operating protocols that have prevailed for decades.

The durability risk can improve considerably when ownership of the assets and responsibility for operations are separated (as they are between the City and PWSA), and/or where the internal improvement initiative is part of a larger institutional restructuring (as it may be in this case). There is an existing asset lease agreement between PWSA and the City of Pittsburgh that could provide the basis for enforcing any internal improvement promises. Indeed, the City could prescribe the standards and deployment plan in detail, and incorporate their implementation into the existing lease. The agreement could have annual addenda, with quantified goals and multiple milestones, readily measured, reported and made public. Consequences for shortfalls could include meaningful consequences for board directors and the employment status of managers. The result could look very much like a blend between a short-term O&M contract and a long-term concession lease.

At its September 12 meeting, the Panel will hear from Lauren Brookey, a member of the Tulsa Metropolitan Utility Authority's ("TMUA") board of directors, former chairperson of the board, and current chairperson of TMUA's Utility Enterprise Initiative (UEI. In her

presentation, Ms. Brookey will explain how her utility went from a privatization threat, to a comprehensive assessment of its assets and operations, to dramatic improvements in its culture, operations, asset management, and management information systems. All of this occurred in part thanks to its underlying City-Authority lease structure.

Option B2. Outsourcing of Selected Services

Some of PWSA's problems have been more immediate – if not worse – for its customers than others, especially "customer service" functions like billing, metering, service issue response, water quality testing, and general maintenance. These are among the most frequently outsourced functions at publicly-operated water utilities, even some larger ones.

The services are outsourced singly or in a bundle, either to an independent entity (a specialized company) or to a local investor-owned or government-owned electric, gas or sewer utility with an overlapping customer base. The value proposition varies with both the service and the availability of community alternatives, but in PWSA's case the primary value driver may simply be consistency and reliability. At worst, outsourcing of selected services can be an interim solution until in-house improvements are made. For example, PWSA is already soliciting "Letters of Interest" from local utilities and other providers to take over its billing-related functions.

Option B3. Short-Term Internal Improvement, Eventual Regionalization

PWSA's issues can be readily separated into two categories: organization and physical assets. IMG believes that the latter cannot be resolved without first addressing the former. As an organization, PWSA is a failed utility. Even at this stage in its assessment, IMG is able to conclude that – despite the laudable efforts of its interim director and the prescient initiatives of its finance chief – the organization requires a top-to-bottom rescue that the Mayor, City Council and PWSA board must all buy into if is to be successful. We further conclude that regulation by the Pennsylvania PUC is therefore premature: the organization is demonstrably incapable of prudently programming, engineering and executing the dramatically-higher capital spending levels (supported by equally-higher water rates) likely to be permitted, if not required, under PUC rate regulation. No amount of regulation or guidance from the PUC is likely to resolve this immediate organizational concern.

The key questions being posed to the Panel are: who will deliver that rescue, under what structure, and according to what timeline? If PWSA's assets and staff are transferred to an existing investor-owned utility or other private partner, the answers are fairly clear: there will likely be wholesale replacement of management and, eventually, many staff and contractors. The management systems and protocols will likely be those of the acquiring entity. However, such a transfer would also frustrate the goal of many community

advocates: gradual integration of the numerous small water authorities around Pittsburgh into a unified regional entity, one capable of efficiently addressing the deteriorating infrastructure of all its member systems. PWSA is currently incapable of being that champion.

An immediate improvement program would focus on PWSA's organization: structure, staffing, governance, systems and protocols, especially for maintenance, capital planning and customer service. It would also include funds for immediate (a more precise term might be "emergency") repairs and improvements. This focus of organizational improvements and urgent repairs – requiring roughly two to four years to fully implement -- would provide breathing room until the utility is able to impress its customers and other stakeholders with well-considered and *well-respected* requests for a much larger capital budget and the higher water rates needed to support it.

Having achieved this higher level of functionality and stability, one similar to other well-performing water utilities elsewhere in the nation, PWSA would then be a more appropriate platform for gradual regionalization (and perhaps PUC regulation as well). Its capital program could begin to incorporate the pressing needs of suburban communities as well as city residents. Its organization could inspire confidence that new monies would be spent wisely, efficiently and fairly, and its governance would be diversified to include its new member communities. In fact, a new regional entity would likely shed not just PWSA's organization and reputation, but even its name.

Option C1. Operations and Maintenance Contract

Most of the water and sewer public-private partnerships in the US are operations and maintenance ("O&M") contracts ranging from 5 to 10 years in duration, with a handful of shorter and longer ones. These contracts promise operating efficiencies and improved maintenance practices at a cost equal to or lower than what they were under municipal operation. The authority's employees become employees of the contractor. The city government retains ownership and beneficial control of the system, and typically continues to be responsible for major capital improvements and the most costly repairs. It also maintains control of water and sewer rates.

In some procurements, the private contractors are required to compete against the existing public staff for the right to operate the system (called "managed competition"). The private operators win a little over half of the time, although the losers on either side typically complain of unfair accounting. For a variety of reasons, IMG does not believe that managed competition is a viable restructuring instrument for PWSA.

Many O&M contracts have been successful in lowering costs, sometimes dramatically. In Milwaukee, for example, where the award-winning, 300-employee sewer authority was

already known for the high quality of its service, the successful contractor lowered O&M costs by roughly 34 percent without any involuntary layoffs or reduction in pay or benefits (existing workers became employees of the contractor but stayed in the public pension plan). This efficiency improvement permitted the MMSD to lower sewer rates by nearly 17 percent while other authorities around it were raising theirs. Milwaukee was so pleased with its experience that it has continued to outsource its sewer O&M under a series of 10-year contracts. At the time of its signing, it is the largest continuing water or sewer public-private partnership contract in the United States, and it still is.

O&M contracting could – if done properly -- work well for PWSA since the organization is in such disarray, maintenance needs are urgent, and compensation and residency requirements remain barriers to adequate staffing. An O&M could address all of these immediate concerns, and contractors typically provide significantly more training, a notable shortcoming at PWSA. However, any such contract would need to have carefully-written provisions for major repairs and capital improvements. These are PWSA's greatest needs (among many), and when poorly written these provisions have led to the unraveling of many O&M agreements. Such was the case in Atlanta, where the city contracted out its water operations and maintenance under a 20-year arrangement in 1999.

Atlanta's water system was quite a bit larger than Pittsburgh's, but it had almost as many issues, most of them underground, where conditions were dire but were not well documented at the time of the contract. These enormous capital needs were not central to the O&M contract itself, but they were to what happened once the contract got going: things broke down early and often. During the bidding process, the City provided what information it had on the system (some of it accurate, much of it incomplete) and bidders were permitted to conduct their own due diligence, though for a limited time. However, the inadequate condition information and the competitive pressures of the bidding process proved to be the partnership's eventual undoing. The contractor quickly found itself losing many millions of dollars annually just to keep things running. After less than four years, and after failing to renegotiate the deal to better match the underground realities, both sides agreed to terminate the contract. As of 2017, Atlanta is still struggling with the same capital improvement needs it faced in 1999.

It is important for the Panel to note that the Veolia management contract entered into by the City a few years ago (and currently in dispute) was not an O&M contract as that term is commonly used in the industry. Although Veolia was granted notable sway over management and staffing, its operating authority was limited compared to an O&M contract, the term was relatively short, and (importantly) the employees remained employees of PWSA. It also had relatively little influence over long-term capital programming, and its contract compensation structure was more oriented toward management stability, efficiency improvement and short-term cost savings than traditional O&M contracts.

Option C2. Concession Lease

A "concession" refers to a long-term contract granted to a private firm to operate, maintain *and invest in* a water or sewer system under a lease structure. Most leases are for at least 40 years, some as long as 99, and 50 is probably the minimum viable lease term for a system with as large an investment need as PWSA's. Many improvements need to be made over the next 15 years, and the concessionaire would need even longer to recover the investment at regulated water and sewer rates. To date, no large US municipal water or sewer utility has ever been restructured via a long-term lease. On the other hand, no such lease has ever been offered to an existing investor-owned and PUC regulated utility. There are, however, a number of seemingly successful smaller examples of concession leases, including some in or near Pennsylvania, as well as larger ones outside of the US.

Private water operating companies – these are *operating contractors*, rather than the investor-owned regulated utilities referred to earlier in this document -- tend to treat long-term leases quite differently than they do their shorter-term operating contracts (5 to 10 years). They do so because they now have sole responsibility for maintaining and improving the assets for a very long time: any material underinvestment would probably come back to haunt them – costing even more money -- well before the lease expires. Indeed, many (though not all) of the points made by US critics of water public-private partnerships are specific to short-term contacts rather than long-term leases. Nevertheless, large infrastructure investment funds and large water operating companies, sometimes working together, appear quite interested in providing the concession model for PWSA. They are eager to demonstrate to the City and its water customers that their respective approaches represent viable restructuring options for PWSA.

Concessionaires pride themselves on making efficient capital improvements as well as better-managing operations. It is why, they argue, that they are able to offer their partner cities lower rates (compared to prevailing projections) and more capital improvements, in addition to lower operating costs. There is plentiful evidence that the design-build construction techniques used by concessionaires are indeed less costly than the design-bid-build format commonly used by public agencies. Concessionaires also argue that they are better at prioritizing the critical and highest-value improvements, all while maintaining existing assets better and more efficiently through sophisticated asset-monitoring protocols. EPA's new WIFIA federal loan program, enacted in 2015, offers its loans and credit guarantees to both public systems and those functioning under a concession arrangement.

Public-private agreements between the concessionaire and its partner city attempt to put these and other claims into writing by specifying investment levels, specific improvements, facility conditions, water quality standards, and customer service levels. A violation of these requirements is cause for severe financial penalties, and even contract revocation.

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Panel Readings I: Improving Water Utility Performance

1. Beyond Privatization
2. PBS: Affordable Water May Soon Dry Up
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PACIFIC INSTITUTE

BEYOND PRIVATIZATION:
RESTRUCTURING WATER SYSTEMS TO IMPROVE PERFORMANCE

Gary Wolff, Eric Hallstein

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ABOUT THE AUTHORS

Gary Wolff

Gary Wolff, P.E., Ph.D., is the principal economist and engineer for the Pacific Institute. Dr. Wolff is an expert in the economics and engineering of the water sector, including conservation, end-use efficiency, privatization, and incentive policies. His work also encompasses issues outside the water sector, such as the application of financial portfolio theory to utility planning, environmental tax policies, pesticide regulation in California, and green building technologies.

His professional career has included solar energy construction contracting, water quality regulation for the State of California, serving as a design engineer at a wastewater treatment plant and as founder and president of an engineering consulting firm, a post-doctoral fellowship at the Center for Conservation Biology at Stanford University, and a visiting professorship at the Graduate School of International Policy Studies at the Monterey Institute of International Studies.

Dr. Wolff's experience with local government and special districts is also extensive: He was appointed by Governor Schwarzenegger to the San Francisco Bay Regional Water Quality Control Board, the state agency that regulates surface and groundwater quality in the nine-county Bay Area; he is the chair of the community advisory committee to the Castro Valley Sanitary District; the past president of the Alameda County Recycling Board, a County Charter Agency; and past chair of the East Bay Municipal Utility District Water Demand Management Advisory Committee.

Dr. Wolff received a Doctoral degree in Resource Economics from the University of California at Berkeley, a Masters Degree in Civil and Environmental Engineering from Stanford University, and a Bachelors Degree in Renewable Energy Engineering Technology from Jordan College.

Eric Hallstein

Eric Hallstein is pursuing his Ph.D. with the Energy and Resources Group of the University of California at Berkeley. Mr. Hallstein holds an M.S. from the Energy and Resources Group and a second M.S. from the Department of Civil and Environmental Engineering at the University of California at Berkeley. He received his A.B. in East Asian Studies from Harvard University. Prior to returning to Berkeley for his doctorate, Mr. Hallstein was a project leader in the San Francisco office of the Boston Consulting Group, a management consulting firm serving Fortune 200 companies.

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ABBREVIATIONS AND ACRONYMS

AOC: Area of Concern

ASCE: American Society of Civil Engineering

AWWA: American Water Works Association

BCDES: Butler County Department of Environment Services

BLS: Bureau of Labor Statistics

BMP: best management practices

BOT: Build-Operate-Transfer

CEQA: California Environmental Quality Act

CEX: Consumer Expenditure Survey

CNES: The Citizen's Network for Essential Services

CSO: Combined sewer overflow

DB: Design-build

DBB: Design-bid-build

DBO: Design-build-operate

DO: Design-operate

DWSD: Detroit Water and Sewerage Department

EMC: Environment Management Corporation

EPA: Environmental Protection Agency

GASB: General Accounting Standards Board

GATS: General Agreement on Trade in Services

IBNET: Water and Sanitation International Benchmarking Network

ICLEI: International Council for Local Environmental Initiatives

ICMA: International City Managers Association

IJC: International Joint Commission

IOU: Investor-owned utility

IRR: Internal Rate of Return

LCC: Life Cycle Costing

OMI: Operations Management International

MGD: million gallons per day

MMSD: Milwaukee Metropolitan Sewerage District

MSGP: Multi-sector general permits

MS4: Municipal separate storm sewer system

MTBE: Methyl tertiary butyl ether

NOI: Notice of Intent

NRC: National Research Council

O&M: Operations and maintenance

OMI: Operations Management International

OSHA: US Occupational Safety and Health Administration

ppb: Parts per billion

PPP: Public-private partnership

PSP: Private sector participation

RCAP: Rural Community Assistance Partnership

RFP: Request for proposal

SDWA: Safe Drinking Water Act

SDWIS: Safe drinking water information system

TDML: Total daily maximum load

TRC: Technical Advisory Committees

URL: Universal record locator

US: United States

WEF: Water Environment Federation

ABSTRACT

Water managers face significant challenges meeting the water supply, wastewater collection and treatment, and stormwater management needs of the communities they serve. Numerous solutions have been proposed, including the controversial action of significantly increased private sector involvement, known generally as privatization.

The debate over privatization has overshadowed discussion of the determinants of performance. This document is unique in that it argues that "public versus private" is not the bright line that separates success from failure. Instead, performance depends on effective staffing, consistent public support for sufficient funding, better asset management systems, performance measurements and rewards, and more stakeholder involvement and transparency.

This report provides a framework for urban and rural municipal-level public decisionmakers to assess problems, identify possible solutions, and choose among these solutions. It provides practical information and examples about improving the effectiveness of water, wastewater, and stormwater systems, whether public or private. To illustrate critical points, the report offers numerous examples from the upper Midwest: the US states of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin, and the Canadian province of Ontario. However, the manual's lessons extrapolate to other regions of the United States, and beyond.

EXECUTIVE SUMMARY

Challenges

FOUR RELATED CHALLENGES are prompting water utility restructuring in the United States and Canada, according to our research: chronic under-investment, regulatory standards and requirements, heightened national security concerns, and limited financial resources.

Chronic Under-Investment

Water-related services are capital-intensive compared to other utilities such as electricity, natural gas, and telecommunications. Measured by the ratio of net utility plant capital costs to annual operating revenues, water utilities are more than twice as capital-intensive as electricity and nearly three times as capital-intensive as natural gas. Due to many years of under-investment — often in underground assets like water pipes and sewers — the US Environmental Protection Agency (EPA) estimates that $68 billion of water and wastewater infrastructure investment is needed over the next twenty years in the seven US states covered in our research (ASCE, 2005).

Regulatory Standards and Requirements

Municipalities and drinking water utilities are still responding to the 1996 amendments to the Safe Drinking Water Act (SDWA), and a significant number of EPA Region 5[1] (upper Midwest) community water systems still do not meet all EPA health-based standards. Region 5 faces the challenge of ensuring safe water to over 41,000 non-community (e.g., schools, rest stops) water systems, roughly 40% of the non-community water systems in the entire US. These non-community systems typically serve a limited number of people on a year-round basis and require extensive technical assistance relative to the number of people served.

Furthermore, Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin contain 358 of the roughly 750 combined wastewater/storm

1 Iowa is located in EPA Region 7.

water systems in the US (Environmental Integrity Project, 2005). Many of these systems have not yet met minimum federal standards for preventing discharges or received approval for long-term plans to prevent stormwater overflows.

Heightened National Security Concerns

The US EPA Action Plan (2004b), a collaborative effort between the EPA, federal partners, the water industry, public organizations, and the emergency response community, identifies critical research and technical support needs in the area of infrastructure protection. Implementation of the plan will affect nearly every municipality in the US, almost certainly without full federal funding.

Average rate increases of about 3% above the rate of inflation for the next 20 years could fund current estimates of needed improvements. Some communities, however, cannot afford to pay that much, and other communities require even higher rate increases to meet their needs.

Limited Financial Resources

Cities are financially hard-pressed. The most recent National League of Cities financial survey (Pagano, 2004) found that 63% of municipal finance officers believed their cities were less able to meet financial needs than in the previous year, and 61% felt that they would be less able to meet needs in 2005 than in 2004. An even higher percentage (74%) of responding Midwest financial officers felt economic conditions were deteriorating rather than improving. Even those cities and special districts that provide water sector services paid for primarily by their customers (rather than via taxes) are reluctant to raise rates, both because it is politically unpopular and because water and wastewater rates have increased on average two percentage points faster than the rate of inflation since at least 1998.

Average rate increases of about 3% above the rate of inflation for the next 20 years could fund current estimates of needed improvements. Some communities, however, cannot afford to pay that much, and other communities require even higher rate increases to meet their needs. In addition to direct financial limitations, public or political perception problems often exist as well, which involve shortsighted emphasis on minimizing rate increases without considering the benefits that might be obtained if rates were raised and spent effectively.

Privatization: A Silver Bullet?

Numerous strategies have been proposed to meet these challenges, including privatization, regionalization, consolidation, and municipalization.[2]

The Privatization Debate

Privatization[3] of water and wastewater services is hotly debated. Proponents have typically argued that the private sector will deliver more or better services per dollar of cost and often claim that private sector involvement is the best solution for all challenges. Opponents argue that the profit motive will eventually lead to higher rather than lower costs; that workers will lose their jobs or benefits; and that local control over decisions will be diminished or lost. Proponents argue that

2 See Sidebar 1 for definitions of these and related terms.

3 See Gleick et al. (2002) for discussion of the many variations of private involvement, and for some specific suggestions about how to simultaneously manage water as an economic and a social good.

water services should be supplied by businesses, like food, energy, and other essential goods. Opponents often feel that water is too essential and fundamental a public good to allow much private involvement. Experience summarized or cited in this report helps to clarify these issues. But some of the issues are still unfolding. For example, no one knows how current or future versions of the General Agreement on Trade in Services (GATS) will affect municipal-level utility decisions when international water companies are involved.

The number of contracts for operation of publicly owned assets tripled in the US between 1997 and 2002 (Reinhardt, 2003). The three largest contracts in the US for operation of publicly owned wastewater assets are located in the Upper Midwest: Gary and Indianapolis, Indiana; and the Milwaukee, Wisconsin Metropolitan Sanitation District. One of the largest, most recent, and most closely watched contracts for operation of publicly owned water assets in the US is also in the region: Indianapolis, Indiana. At least six large or medium-sized companies operate in the region, including the three largest water companies in the world: Veolia Environment, United Water (a branch of Suez, headquartered in Paris), and American Water (a branch of the German firm RWE).

Nonetheless, the heightened interest in privatization has not led to widespread privatization of water systems. There are only about 91 contracts for operation in the region out of more than 4,000 publicly owned systems (see Appendix B), although as noted above some of these contracts are very large even by national standards. And in Ohio, only three changes in system ownership took place in the 1990s; two municipalizations[4] versus one privatization (personal communication, Grossman, 2005).

There are, nonetheless, nearly 4,000 small private water systems in the region, mostly owned by local businesses or groups in situations where water is incidental to the business, such as mobile home parks or homeowners associations. Based on national statistics, these small systems probably serve only 15% of the population in the region. In some states, such as Michigan and Minnesota, these systems are so uncontroversial that they are not economically regulated at the state level, though they are subject to water quality regulation. Even in states that regulate investor-owned water companies, most systems are below the state-by-state size thresholds for economic regulation. Only about 200 investor-owned water and wastewater systems are economically regulated in the upper Midwestern focus area of this study.

Beyond the Debate Over Privatization

Our analysis of utilities in the Midwest and elsewhere shows that some accepted wisdom should be rethought. Specifically, we find that private sector involvement is not the bright line between success and failure. Researchers have statistically analyzed the question of economic efficiency but have found no clear evidence that private companies are more economically efficient (see Appendix B). As discussed at greater length in this report, both public and private forms of organization have economic advantages and disadvantages. Neither seems to have an inherent efficiency advantage, overall. The bottom line seems to be that public and private agencies both benefit from improvements driven by some form of

… both public and private forms of organization have economic advantages and disadvantages. Neither seems to have an inherent efficiency advantage, overall.

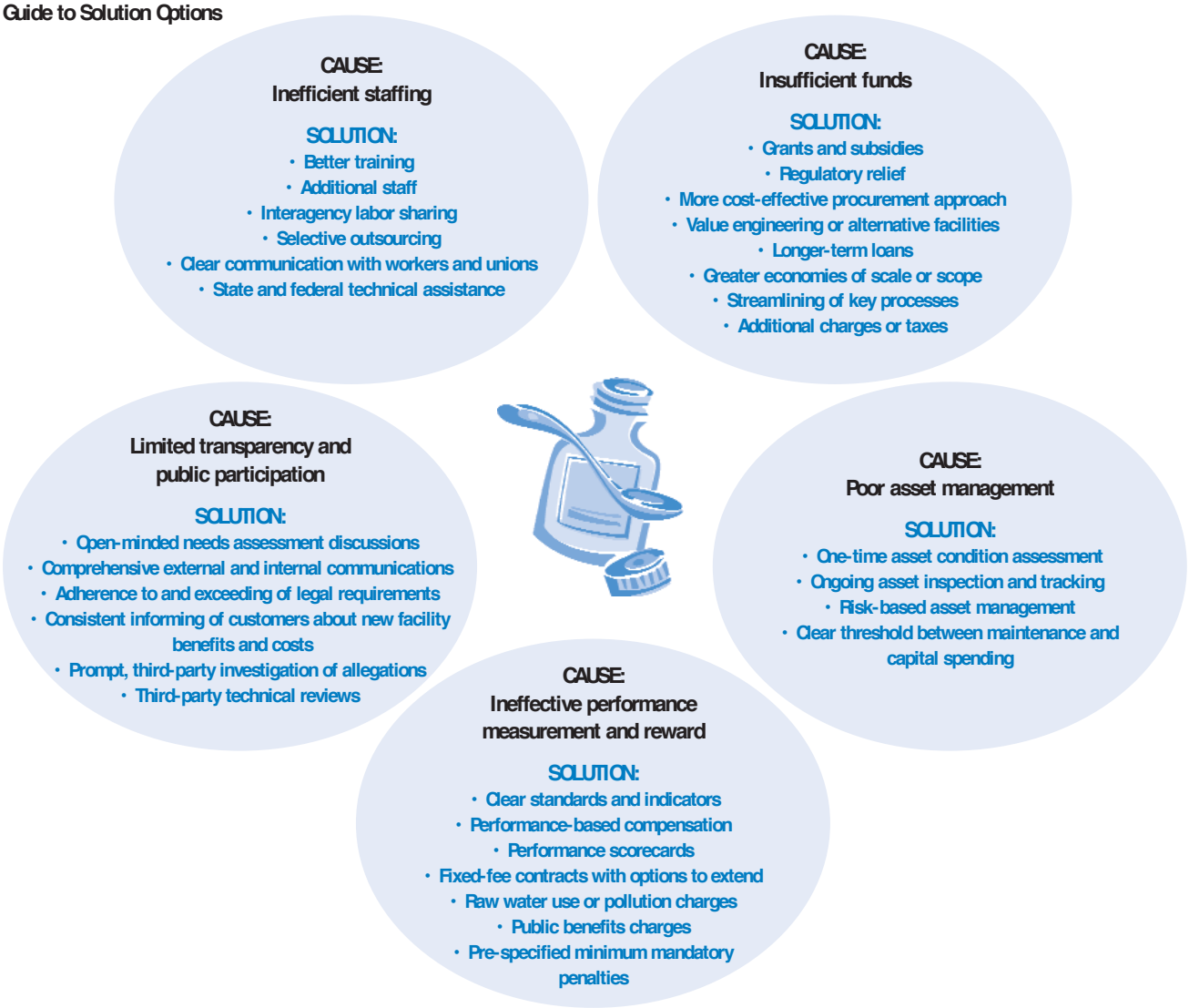
4 Municipalization—public purchase of investor-owned water utilities—is not uncommon. At least two cities in Illinois (Pekin and Peoria) have tried to purchase their local divisions of American Water, and Beloit and Ripon, Wisconsin have either recently purchased or are in the process of purchasing privately owned water systems in their communities.

competition or comparative measurement. A decision on whether or how to involve the private sector needs to be made on a case-by-case basis based on local values and conditions. What works for one community may not work for another.

Six Determinants of Success

Our research found six characteristics of high-performance organizations, all of which may be present in public or private (or mixed) forms of organization. Five of the determinants are permanent features of successful organizations: effective staffing, consistently sufficient funding, detailed asset management systems, performance measurements and rewards aligned to organizational objectives, and decision processes that are transparent and open to the public. Figure ES-1 shows these determinants in their negative form—that is, as causes of problems that require solutions. The bulleted items in each bubble in the figure are solution categories discussed in detail later in this report.

Figure ES-1
Guide to Solution Options



The sixth determinant is relevant to the process of restructuring. Successful organizations avoid what we call "false starts." Figure ES-2 shows a process that will be effective if one begins at the "effective start." An ineffective and sometimes disastrous beginning is labeled "false start." The false start is typically a situation where one or more community leaders decide they know the problem and the answer (often, "hire a private company") and proceed to push that solution through the political process. Because many members of the community are not yet clear that a problem exists, what its symptoms are, what the causes of the symptoms are, and what the range of solution options is, they are often disengaged from the restructuring process, at least initially. When they become involved, they are often disgruntled because these questions have not been answered. Political and legal fights may then erupt, often focused around the role of the private sector. Lawsuits may be filed or referenda to restrict the power of elected officials may be placed on the ballot.[5]

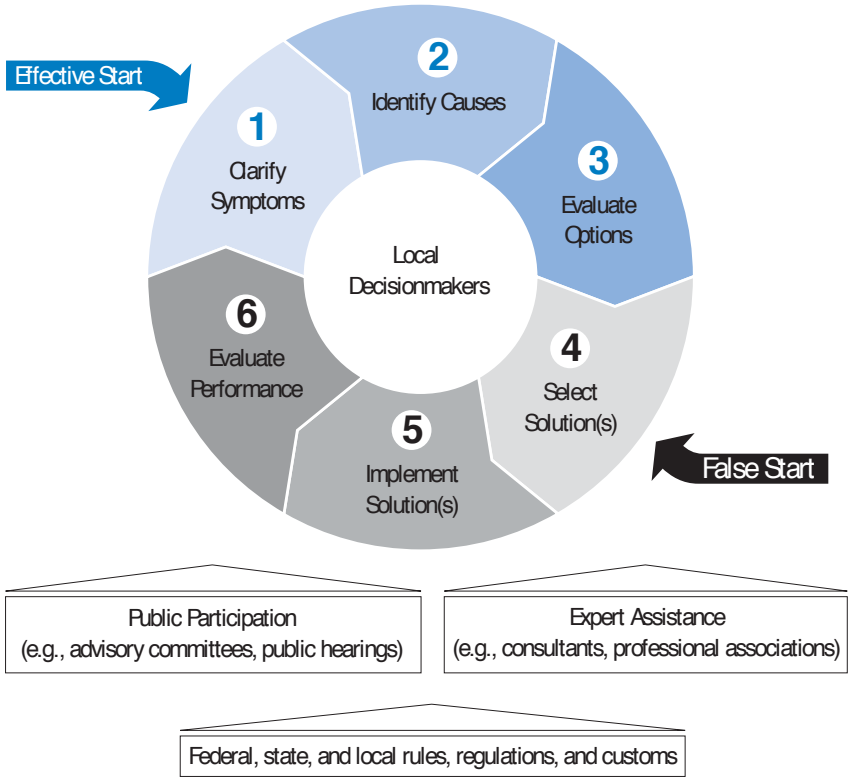


Figure ES-2
Avoiding False Starts When Restructuring

– Focus of Manual

– Limited Discussion

Figure ES-2 shows six steps that our research found are typical of successful processes regardless of a municipality's size, problems, or choice of solution. The first three steps are often neglected and are therefore discussed extensively in this report. False starts or incomplete processes can lengthen, increase the cost, or increase the contentiousness of restructuring. Process is an area where some communities have been penny-wise but pound-foolish. A complete, well-thought-out process that is rigorously followed will benefit any community, regardless of size.[6]

5 New Orleans, Louisiana and Stockton, California voters approved referenda that require direct approval of the voters for city contracts in excess of a specified dollar sum. Both referenda were in response to false starts in water system restructuring. A judge nullified the contract with a private company in Stockton for operation of the water, wastewater, and stormwater systems shortly after it was awarded, but appeals of the decision have been filed and are not yet resolved.

6 Small communities facing severe resource constraints will still fare better if they perform each step in a very simple way rather than skipping any of the steps.

Figure ES-2 depicts a cyclical process, because even after successful restructuring there is need for continuous improvements and adjustments to avoid another major restructuring in the future. Commonly, restructuring becomes necessary when this sort of a continuous, iterative improvement cycle has broken down and originally small problems have become large ones. The resulting crisis and sense of urgency often leads decisionmakers into the "false start" mistake.

There are many ways to succeed so long as major mistakes discovered in other venues are avoided.

Recommendations

This report recommends actions that decisionmakers should make, and others that they should avoid, grouped under the six determinants of success. The "Do" items emphasize positive actions, while the "Don't" items highlight larger mistakes to avoid during water system restructuring. Our primary objective is to help communities learn from the experiences of others. There are many ways to succeed so long as major mistakes discovered in other venues are avoided.

Some of the recommendations clearly demonstrate that the choice of public or private form of organization is not critical to performance.[7]

For example, in the area of **adequate funding**, we recommend: *Do look for and capture economies of scale and scope*. Small communities are perhaps the most challenged, financially, in the focus area of this study. One very effective way to reduce cost is to identify and capture economies of scale or scope through cooperative arrangements or outright consolidation with other public agencies or private companies. The Lansing, Michigan Board of Water and Light achieved greater economies of scale in its core operations through a combination of retail contracts to manage other operations, wholesale contracts to resell water, and asset transfers from other municipalities to the Board. Other functions without economies of scale, like water distribution, remained with the towns. Similarly, the "hub and spoke" area project in Minnesota has allowed the towns of St. Michael, Albertville, and Hanover to benefit from economies of scale captured by a private company that serves all three towns. As in the Lansing example, however, some functions remain in the hands of each town because there were no economies of scale affecting those functions.

In the area of **performance measurements and rewards**, we recommend: *Do measure and reward (or penalize) performance*. Management structures that do not measure and reward achievement of performance objectives inevitably become inefficient. Performance bonuses are one way of rewarding private companies, as is allowing them to keep any cost reductions they achieve below a fixed fee that is paid for their services. Both of these techniques have been used successfully in the Milwaukee Metropolitan Sewerage District (MMSD) contract for operations. Performance penalties in a contract, such as those for odor complaints in the Sioux City contract, are also beneficial. But performance measurement, rewards, and penalties are also appropriate in public systems. The City of Baltimore CitiStat system has saved more than $100 million since its inception in 2001. And Louisville Water, a public corporation, has

7 Although that choice is an important value decision in some communities.

used bonuses at all levels of the utility to increase efficiency and to create a culture of performance among its staff. In the case of public utilities, even if cash bonuses are not legal or appropriate, promotions and continued employment can be clearly linked to achievement of performance objectives.

In the area of **transparency and public participation**, we recommend: *Do communicate clearly and consistently with workers and unions if jobs will be transferred between employers.* The MMSD developed a standard form contract that was reviewed and approved by the union prior to solicitation of proposals for operations. The Indianapolis wastewater contract; the Butler County and Akron, Ohio public agency restructurings discussed in this report; and the transition from private to public operation in Hamilton, Ontario had similarly consistent communications with workers.

Unfortunately, the Indianapolis water transition involved conflicting communications about benefit levels for workers that created tension that could have been avoided. The operations contract called for the value of benefits to be maintained while the mayor had previously stated that benefits would be unchanged. To this day, the contractor and the union differ on how to calculate the value of benefits. As a result of this inconsistent communication, a federal mediator has been required to help with the labor contract negotiation, seventeen complaints have been filed with the National Labor Relations Board, former employees have sued over their dismissal, and the loss of staff and turnover in management have been so significant that some people are asking whether the utility has sufficient institutional memory to function well in the future.

It is important to note that these examples do not show any pattern with respect to the question of public versus private operations. Successful labor transitions took place from public-to-private, public-to-public, and private-to-public management. The unsuccessful example was a private-to-private transition, but we know that such transitions have taken place successfully in other circumstances. The bright line between success and failure for labor transitions is **not** public versus private; instead, the key is clear and consistent communication with workers and unions.

A final example, with regard to **avoiding false starts**, is our recommendation: *Do not assume the private sector is inherently more efficient or less costly*. Statistical analysis does not support this claim (see Appendix B). There are cost factors that both drive up and drive down private company costs relative to public agency costs. When cost savings exist, they result from some specific circumstance that can be identified and evaluated, not an inherent advantage of private over public. For example, the successful bidder in Stockton, California is far more experienced than other bidders and public agencies at operation of a particular type of wastewater process — experience that allowed them to bid $20 million less for capital improvements than the second-lowest proposal and to provide financial guarantees for their proposed method of wastewater treatment.

When cost savings exist, they result from some specific circumstance that can be identified and evaluated, not an inherent advantage of private over public.

Conclusion

> … allowing values and beliefs to overshadow the factual and analytical part of the decision often leads to costly outcomes that polarize and divide communities.

The debate over water privatization has overshadowed discussion of methods for achieving real, tangible performance improvements regardless of whether the utility is public, investor-owned, or somewhere in between. While values and beliefs certainly have their place in any decision about utility restructuring, allowing values and beliefs to overshadow the factual and analytical part of the decision often leads to costly outcomes that polarize and divide communities. Experience in the upper Midwest shows better-performing utilities:

- have staff in the right numbers and of the right kind
- know what assets they own and the condition of those assets
- are consistently funded at adequate levels because they use a wide range of techniques to control costs and to maintain financial credibility with their communities through continuous communication
- measure performance and provide rewards or penalties as appropriate in order to ensure that staff at all levels are encouraged to either improve the quality or reduce the cost of service
- make decisions in open processes, with transparency and public participation and periodic third-party reviews, thereby avoiding even the appearance that corruption or "private agendas" are driving the decision process, and
- if restructuring is needed, avoid a false start by identifying the symptoms and underlying causes of the problems people are facing — and discussing the full range of solutions that might be implemented — *before* deciding to undertake potentially controversial actions such as changing from a public to private or a private to public utility structure.

The choice of public versus private structure is important because it involves social values such as public health, affordability of essential services, and the general approach of each community to satisfaction of basic needs. But our research shows that with respect to performance — how much or how many services get delivered per dollar of rates paid by customers — the choice of public versus private is not nearly as relevant as the bulleted points above.

PBS NEWSHOUR

Affordable water may soon dry up, especially if you live here

BY NSIKAN AKPAN *January 25, 2017 at 5:24 PM EDT | Updated: Jan 26, 2017 at 1:06 PM*

Water may become unaffordable for a third of American households within the next five years. Photo by Enid Martindale/via Flickr

Remember this number: $120. It's the average monthly water bill in America.

Researchers at Michigan State University predict this figure will rise by $49 over the next five years. And if it does, water may become unaffordable for one-third of American households, according to a study, published recently in PLOS ONE, that maps the U.S. areas due to be hit

hardest based on local incomes.

“The project deals with looking at the economic impacts of rising water prices on both households and regional economies,” said Elizabeth Mack, an MSU geographer who led the work. When she first pitched the research idea to her colleagues, some scoffed. While water unaffordability is common overseas, Mack said, most assume Americans have the resources and the willingness to do whatever it takes to pay for water.

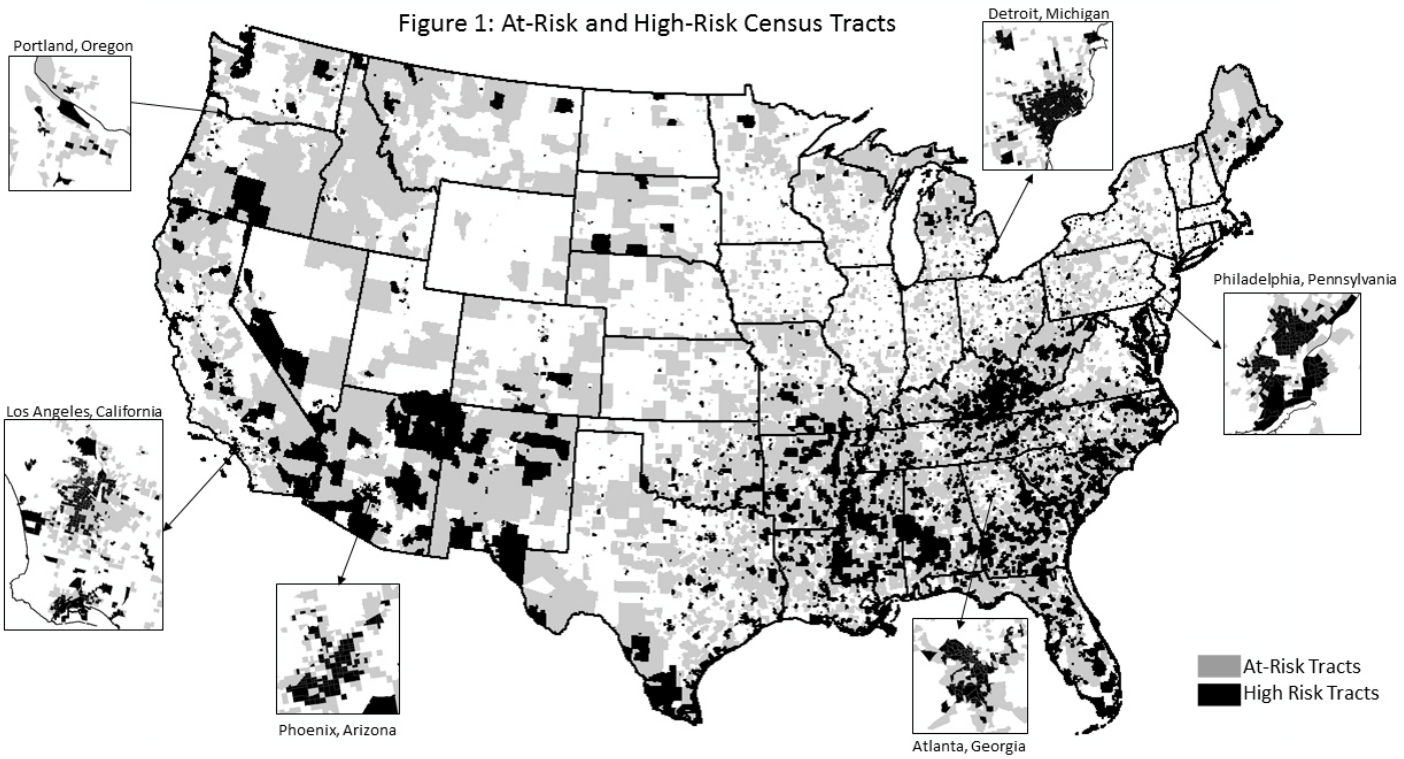
But rising water prices are quickly eroding this line of reasoning, according to the investigation conducted by Mack and her colleague Sarah Wrase. Two years ago, a survey of 30 major U.S. cities found water bills rose by 41 percent between 2010 and 2015. This dilemma is well-documented in Detroit, where 50,000 households have lost water access since 2014, or in Philadelphia, where 40 percent of the city’s 227,000 water bills are past due.

Mack took these reports and multiple others to expose how pocketbooks could be affected by escalating water prices on a national level. To do so, she peered into an American Water Works Association survey of water utilities across the U.S. in order to determine the annual water bill for an average consumer. The analysis settled on a bill of $120 for nation’s average monthly consumption of 12,000 gallons in 2014, which is based on figures from the U.S. Environmental Protection Agency.

The EPA also provides an estimate for how much Americans can afford to spend on water and wastewater services. If water prices rise above 4.5 percent of a household’s income, then “that means you’re going to have to take expenditures from other portions of your budget and allocate them to water,” Mack said.

To meet this affordability benchmark, a household must earn at least $32,000 per year, according to Mack and Wrase’s assessment. Based on their numbers, nearly 14 million American households — 11.9 percent — couldn’t afford water in 2014. If water prices continue to rise at the same rate (41 percent over five years), then a third of American households — 40 million — may lose access to affordable water, they found.

The team examined median income data for individual areas in the U.S. to chart a map of the communities most at-risk for water poverty.



Counties (census tracts) with a high-risk (black) or at-risk (grey) of losing water access due to affordability. High-risk is defined as areas with a median income below $32,000, which are likely to face affordability challenges based on current water rates. At-risk communities have median incomes of $32,000 and $45,120. Image by Mack EA and Wrase S, 2017, PLoS ONE

The South, urban centers and low-income communities carry the most risk. For instance, 81 percent of high-risk and 63 percent of at-risk communities are concentrated in urban areas. Mississippi, Louisiana and Alabama topped the list with the largest numbers of county subdivisions — or census tracts — facing a high-risk of future water poverty. Many of the at-risk areas also have higher rates of disability, food stamp usage, unemployment and black and Hispanic residents, according to the study.

“Some regions are affected more than others in regards to rising water prices, but it’s unlikely that there are any regions that won’t see increases,” said Justin Mattingly, a research manager at the Water Environment & Reuse Foundation, who wasn’t involved in the study. “Aging infrastructure is a problem for everybody, and water scarcity is becoming a bigger problem in many regions as well. There have been years of disinvestment for water infrastructure, and it’s starting to come back to us now.”

Much of the nation’s water infrastructure dates back to World War II, if not earlier. Washington, D.C. still runs water through wooden pipes from the mid-1800s. On Tuesday, Senate democrats

unveiled a $1 trillion infrastructure plan that would allocate $110 billion to water and sewer rehabilitation. But water policy agencies predict a total overhaul of America's water would itself cost $1 trillion. Tack on another $36 billion to adjust for drought, seawater intrusion into aquifers, flooding and other climate change-based shifts to water systems.

Most of the time, water pipes are installed by housing developers, said Theresa Connor of the One Water Solutions Institute at Colorado State University. But water utilities take over the costs of upkeep once they start serving a new neighborhood.

"Although the major cost is the pipes, you also have to keep your plants up-to-date. If there are any new regulations, you might have to do improvements of the pipes and plants," said Connor, who wasn't involved in the study.

Infrastructure replacement is the primary driver of the water price surge in America, Connor said. In Atlanta, which spends more on water than any other state, there was a regulatory initiative to prevent stormwater from discharging into wastewater. The move prevented raw sewage from mixing into the streams used for drinking water. But this regulatory decision plus the privatization of water services bumped Atlanta's water bills to $325 per month on average.

Recent water regulations — like the Drinking Water Protection Act — have forced some water utilities to update their systems to protect from emerging contaminants like agricultural nutrients. But both Connor and Mattingly said those costs are small relative to the spending needed to address aging infrastructure. "At the end of the day, it's still aging infrastructure that's driving much of the rise in water rates," Mattingly said.

Urban flight is another factor in rising water prices. As populations decline in places like Detroit, water utilities are forced to spread their expenses across fewer people, which boosts rates. Meanwhile, cities like Phoenix and Las Vegas have low prices due to human growth.

"Many utilities are looking at alternative billing structures to take some of the burden off low-income households," Mattingly said. One tactic involves higher charges for those who use more water, rather than a flat fee for everyone.

Both Mattingly and Connor said Mack's study is a solid first step in understanding water poverty, but noted that its resolution is limited given the data are based on a small portion of America's

155,000 or so water systems.

“This reality underlies the problem of a lack of available data on water usage and other metrics in the United States,” Mattingly said. “Without proper data, decision making at the local and national level can be hindered.”

Billing rates can vary dramatically between water providers, even within a single city. In the future, Mack hopes to apply the same analysis on individual cities to offer more guidance on water affordability.

As Flint, Michigan and other cities with water catastrophes have proven, the stakes for water infrastructure improvements are high. Delays can expose citizens to health hazards.

“While Flint has certainly garnered the most attention for its water infrastructure problems – and with good reason – they are certainly not alone,” Mattingly said.

Editor’s note: Due to an error in the study, an earlier version of this post had the close-up section of the Detroit water map oriented incorrectly.

Nsikan Akpan
Nsikan Akpan is the digital science producer for PBS NewsHour.

@MoNscience

The Great Leap Forward:

Tulsa's Big Gamble On People and Technology To Drive Privatization-Like Performance

When the board of the Tulsa Metropolitan Utility Authority (TMUA) convened for their final meeting of in 2012, the stakes were enormous. A recent analysis had revealed that over the next 25 years the households and businesses of Tulsa would spend nearly ten billion dollars for their water and sewer services. Moreover, rates were expected to sharply increase due to new regulatory requirements and the replacement of aging infrastructure. So when the agency's board voted unanimously to launch a massive four-year performance initiative, they understood well the gravity of the task.

The new initiative would touch every aspect of the water and sewer utility's management, operations and capital investment program. Its goal was to make Tulsa's utility competitive with the very best private operators in the country and in the process reduce the long-term increases in water and sewer rates by at least 20 percent. But the path was risky and uncertain at the time, and the challenges were daunting: few large municipal utilities had ever attempted such a dramatic transformation in such a short time, and a costly failure could haunt both the board members and the utility's staff for years afterwards.

Baseline Performance Summary

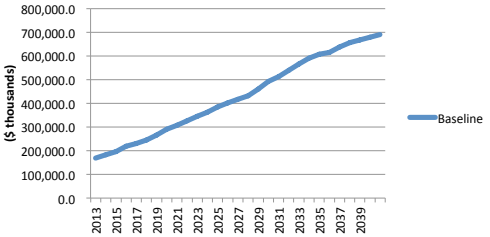
TMUA's current outlook shows that it will have to make regular rate increases and issue significant amounts of debt to meet its long-term capital needs.

Baseline Overview

- Significant capital outlays over next 50 years
- Estimated annual rate growth to cover costs:
  - Water: 4.26%
  - Wastewater: 5.77%
- Cost of capital
  - Municipal debt outlook
  - Premium for constraints
- Minimum debt service coverage ratio: 1.5

Baseline - Average Monthly Bill	
2012	$ 65.16
2020	$ 116.90
2040	$ 261.60

Combined Rate Outlook



2013-40 Estimated Annual Rate Growth

Water	Wastewater
4.26%	5.77%

Recommendation: Privatize

Late afternoon two years earlier, the shadows on the 15th floor conference room of the Tulsa City Hall grew longer as the sun set over the Arkansas River. Mayor Dewey Bartlett, only a few months into his first term, waived his anxious chief of staff into the room. He handed the mayor a still-warm printout with the results of a six-month efficiency study of the city's operations. Buried among the hundreds of recommendations was a blockbuster, one that would come to occupy much of the city's workforce for the next five years.

The George Kaiser Family Foundation had been a generous supporter of good government and community development in the Tulsa since 1999. Its sponsorship of the efficiency study could not have been more timely. As the devastating effects of the Great Recession took hold in the city, tax collections fell off a cliff. The outgoing mayor had already turned off the lights on the expressway, cancelled the fire academy and even sold the police department's horses in a mad dash to stay ahead of the rising wave of red ink. But shortly after Bartlett's inauguration, the city finance director grimly informed him that even at the current reduced spending rate, the City would run out of money in just twelve weeks. As Bartlett later recalled, "the entire room was shocked silent."

There was an understandable desperation among the staff as they awaited the Kaiser Foundation's consultant report. In the interim, Bartlett had to cut salaries across the board, freeze hiring, slash contracts and -- in what is usually the last act any mayor wishes to take in such circumstances -- lay off 130 staff in the police department. Still, revenues continued to slide with no obvious end in sight. So when the report arrived, recommending among other actions the privatization of the city's water and sewer utility, with a potential payoff of up to a billion dollars in up-front payments to refill the city's emptying coffers, Mayor Bartlett felt he had little choice but to listen.

A Tempting Solution

In the event that Tulsa privatized its water and sewer system via a long-term lease (effectively turning over management, operations, capital programming and investment for at least 50 years), it would become by far the largest utility in America ever to do so. However, the decision of whether to privatize was not solely the mayor's or even the City Council's. The utility's assets had been financed and governed since 1986 by the independent TMUA. Although the utility was operated by City employees, it did so under a charter-specified service agreement with TMUA. The authority's board members were appointed by the mayor in staggered terms, and the mayor was officially a member of the board, but otherwise it was not directly under his control. Moreover, even TMUA required the consent of the City Council for any rate increases.

Mayor Bartlett let it be known to every City department that he was considering all of the city-wide efficiency study recommendations, and that he hoped for the additional cooperation of the independent service authorities, including TMUA, the airport authority and waste management authority. All were self-financed through user charges and were financially managed via self-contained enterprise funds segregated from the rest of the City budget. Still, all of the utility's staff were employees of the City, not the TMUA, and were therefore affected like all other City departments by the staff cuts, hiring freezes and salary reductions. Neither their enterprise fund nor the TMUA board could protect them.

When the results of the efficiency study were announced, the TMUA board members scrambled to understand what was happening, although all vowed to cooperate with the Mayor on solutions to the City's budget problems. They were, however, alarmed with the seeming aggressiveness of the study's privatization recommendations. In particular, some of the mayor's senior staff had followed the successes of Indianapolis mayor Steve Goldsmith in offering dozens of city services for "managed competition." These competitions pit city employees against private contractors for the right to provide services.

Goldsmith had privatized the city's wastewater utility in 1994, its international airport in 1995 and later on its water utility. But Goldsmith also celebrated when the city staff won the competitions. After several employee wins, he wistfully observed, "When a contractor wins, there's a small article buried in the

Indianapolis Star about the possibility of city employees losing their jobs. When the employees win, there's a picture of me with the smiling employees, in color and above the fold on the front page." Cost-saving competition, said Goldsmith, not necessarily privatization, was the point of it all.

Unlike in Indianapolis, however, the contractor-versus-employee competition was not the option on the table for Tulsa's water and sewer utility. Rather, a long-term lease would transfer control of the assets and operating responsibility for fifty years or more while yielding a large cash infusion for the City and perhaps more tax revenue as well. It is a scenario that had worked out well for the State of Indiana in 2006 when it privatized the Indiana Toll Road for an upfront payment of nearly $4 billion. That money kept highway repair and construction humming throughout the Great Recession and helped the state weather the economic storm better than others around it.

Mayor Bartlett had a decision to make, but he needed more information on the specific pros and cons for Tulsa. For its part, the TMUA board had to decide how it would react to the possibilities. What it did next surprised almost everyone.

Privatization and Its Alternative

The Kaiser Foundation-sponsored study had been a "high level" analysis of 20 City departments and 1,512 services by consultants who mostly were not specialists in the city services they evaluated, nor were they afforded the time or budget to do much more than review budgets, staffing charts, survey results and a few business processes. Moreover, the TMUA board's concerns about the study were influenced by utility staff complaints that they were never interviewed directly and that the consultants lacked of knowledge of water and sewer operations. Nevertheless, the board had to take the findings seriously, so they vowed to conduct a deeper investigation of its own: not long after the consultant study appeared, they voted to conduct an eighteen-month, $3.5 million "Comprehensive Assessment" of all utility assets, operations and management practices.

Although major performance reviews and needs assessments are not uncommon in the water and sewer industry, Tulsa had not done one in years. Such reviews are often conducted by consulting engineering firms, but the Kaiser Foundation study had recommended long-term leasing of the utility – a transaction process usually managed by a financial firm. Accordingly, the TMUA board took the unusual step of requiring that the lead contractor be a finance and management advisory firm, and specifically one with privatization transaction experience.

In comparing alternatives ranging from doing nothing to selling the utility to investors, the TMUA board members were forced to balance the City's immediate financial needs with the interests of utility ratepayers. Any lease or sale option could provide hundreds of millions of dollars to the City treasury, but the utility would likely lose access to use tax-exempt financing. Not only would financing future improvements become more expensive, but TMUA's existing bonds would probably have to be replaced with new, higher-cost debt with taxable interest.

TMUA's chief consultant on the Comprehensive Assessment, Infrastructure Management Group ("IMG"), estimated that the cost of the upfront lease payments to the City and the loss of tax-exempt bonding could be more than offset by lower operating costs and more efficient management of the utility's assets.

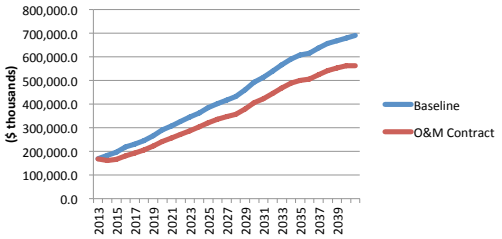
O&M Contract Analysis Summary

TMUA can achieve significant savings by entering into multi-year O&M contracts

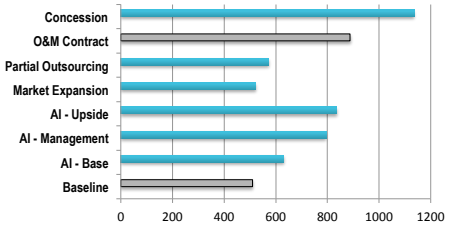
O&M Contract Highlights

- Contract operator specializes in running utilities efficiently
- Contract operator will charge TMUA estimated direct costs plus 15%
- TMUA would lose control of utility operations, maintain control over capital and retail

Combined Rate Impact



Combined Valuation



2013-40 Estimated Average Residential Bill

Average Bill	% Reduction
$138.2	17.2%

Despite this tempting possibility, IMG also explained that no large municipal utility had ever been privatized via a sale or lease despite these potential benefits and despite several high profile attempts: the politics and processes had always been – or eventually became -- too complicated, and fraught with multiple legal and financial hurdles.

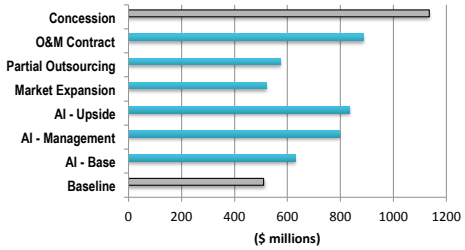
Concession Summary

A concession agreement would drive more savings from both utilities than any other scenario, but TMUA would lose control of the utilities and face rate uncertainty.

Concession Highlights

- Concessionaire would implement all of the aggressive improvement scenario elements
  - achieve additional capital savings of 10-15% due to higher risk tolerance, scaled systems and experience
  - implement market expansion and partial outsourcing recommendations
- Significant savings would be offset by the concessionaire's higher cost of capital
- Concessionaire could pay entire value up-front in a lump sum or reserve a percentage of value for rate stabilization over time
- TMUA would lose control for long time period, face rate uncertainty, higher risk

Valuation Comparison



Estimated Lump Sum Payment:

$1,100 M

After much deliberation, Mayor Bartlett and the TMUA board agreed that the best option was for the board to drive the utility as hard as possible toward the same management techniques and technology typically used by the very best private operators. But this option had risks too. Many utilities threatened with outsourcing had similarly chosen internal improvement instead of emulating cities like Indianapolis and Milwaukee that had reduced their operating costs by over one-third via privatization. However in most of the cities that had done so, the staff's enthusiasm for hard-nosed change waned markedly after the threat was gone. After a few years, performance typically returned to pre-threat levels. This was a major concern for the TMUA board, and the mayor. Was there a way to not only achieve contractor-like performance, but also make it last?

The Aggressive Improvement Option

The improvement proposal in Tulsa differed from other cities' initiatives in several key respects:

- **First**, TMUA and the City have a long-term contractual relationship similar to what a city and private utility operator might have under privatization. That meant that TMUA could conceivably enforce any performance goals and standards that it might negotiate with the City, just as a municipality might do with a private contractor.
- **Second**, the recommendations for the aggressive improvement option included several expensive new state-of-the-art performance and condition information systems, so that all parties and all staff could be aware of any performance or condition changes, good or bad, in real time. These systems would allow the board to hold managers accountable to the goals.
- **Third**, TMUA would see to it that the City's staff were equipped with a set of advanced operations and management tools equal to what any private operator would possess. The board hoped that together they could provide management and staff with much more nuanced control over utility operations, maintenance and assets than would be possible without them.

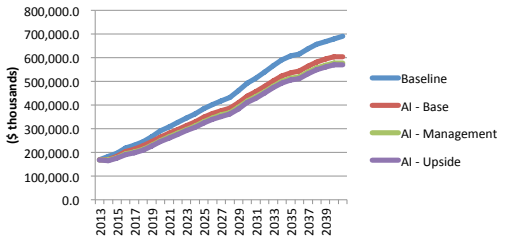
Aggressive Improvement Summary

TMUA can achieve significant savings by making organizational and operational improvements that move the utilities to a more performance-based approach.

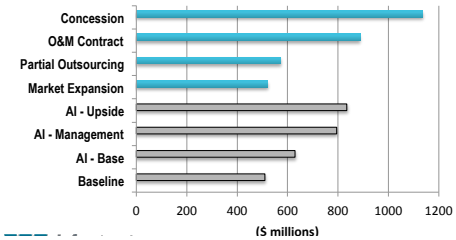
Aggressive Improvement Highlights

- Moves TMUA to more of a performance-based utility
- Empowers board to more effectively drive performance improvements
- TMUA maintains control of the utilities and can significantly reduce rate uncertainty

Combined Rate Impact



Combined Valuation



2013-40 Estimated Average Residential Bill

Average Bill	% Reduction
$142.4	14.6%

This was a lot of change for any organization to swallow, so the board plotted a logical path whereby the new systems would come online only as the staff would become comfortable with new ways of thinking about their jobs. Culture first, then technology. It was a hard two-step dance.

The new systems – plus the added staff time to deploy them and learn to use them -- were multi-million dollar investments in both up-front outlays. Moreover, while some of the projected savings could occur quickly (mostly via new operating and maintenance protocols), the bigger savings from technology and asset management reforms would take longer to realize. Still, the TMUA board hoped that sustained improvement would occur in three different ways:

- **First**, as the new information systems came on line, they could give managers and shop-level staff progressively more real-time feedback on the improvements they made to operating practices. These improvements could be reinforced by regular, quantified performance reporting to the utility director and the board.
- **Second**, new management processes could gradually unify maintenance and capital investment deliberations, yielding smarter and more efficient investment decisions. These decisions have big consequences for ratepayers in an industry where user charges are usually driven as much by capital spending than by personnel and materials costs. And,
- **Third**, an advanced computerized maintenance management system ("CMMS"), combined with new thinking about how to know when and how each class of assets deteriorates and should be repaired or replaced, could extend the useful lives of assets without increasing their risk of a consequential failure.

Despite this upfront pain and expense, and with no assurance that the effort would yield any lasting results, the Mayor joined the board in voting unanimously in favor of what came to be called *the Tulsa Utility Enterprise Initiative ("UEI").*

Because the decision to conduct a utility-wide critique was driven in part by the specter of privatization, the board decided to use the performance of private operators and "best-in-class" municipal operators as the baseline against which current Tulsa operations and all improvement options would be compared.

The Roadmap for the UEI

One of the main findings of the Comprehensive Assessment was that Tulsa's utility lacked the necessary tools to improve so aggressively. On that basis, the board designed the UEI around the following elements:

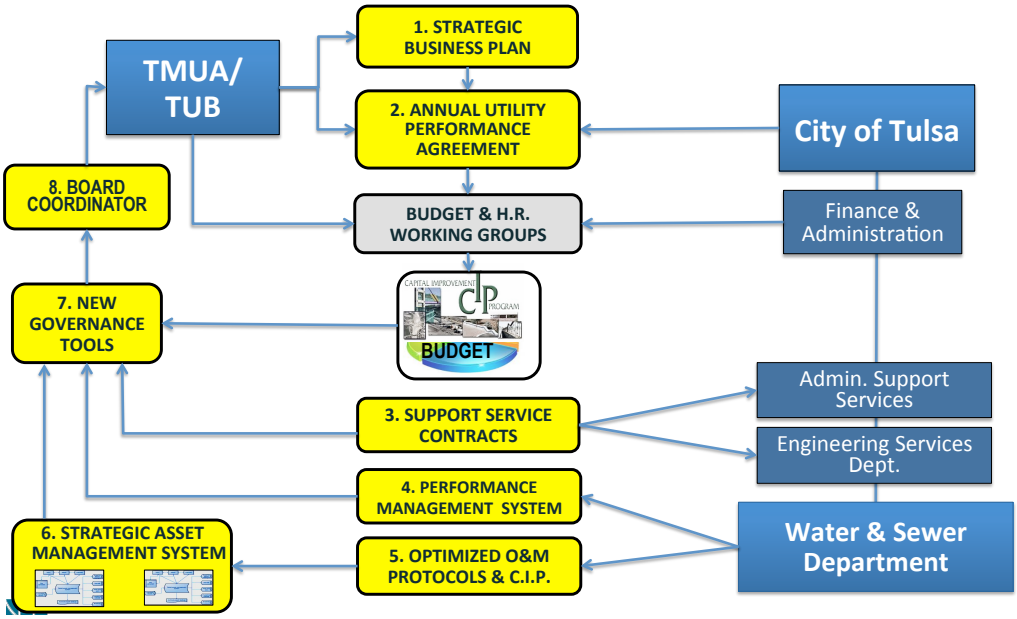
> ***1. Performance Management:*** *As of 2012, the utility collected very little performance data, yet self-awareness is the most important requirement for continuous improvement. Accordingly, the most important component of the UEI was to try to use business intelligence software to develop a new performance information management system ("PMS") to record and report every aspect of the utility's performance.*
>
> ***2. Operations Management:*** *Tulsa's operating information software was outdated and largely unused, especially for water. Accordingly, the UEI included a new water and sewer treatment information management system ("WIMS") to record, analyze and report critical data from the treatment plants.*

3. Maintenance Management: *The maintenance information system was outdated, poorly used and had limited asset management capability. Accordingly, the UEI included installation of a new computerized maintenance management system ("CMMS") to replace the aging system for wastewater treatment, and to expand the new CMMS to include water treatment assets.*

4. Collection and Transmission Management: *Tulsa's underground assets are old, and information about their condition is very limited. Accordingly, the UEI recommended installation of a new unified information system for tracking the condition and performance of underground wastewater collection and water transmission pipelines.*

5. Asset Management: *Better asset management, including knowing exactly when and how an asset should be monitored, repaired or replaced, is the largest potential source of cost reduction for a water utility. Accordingly, the UEI included installation of a strategic asset management system ("SAMS") for bringing together all the utility-wide data on asset condition, maintenance records, equipment "failure modes" and capital project planning.*

Implementing these new systems could generate a wealth of valuable information to utility managers, but gathering that data was only the first part of the performance equation. Moreover, the board hoped that tight integration of the systems – a sizeable challenge in itself -- would make it much harder for the UEI to fall victim to staff fatigue brought on by having to input the new data by hand.



Systems by themselves are not enough, of course. The UEI also had to include complementary process improvements that make use of the new information, including those listed below.

6. Operational Improvements and Process Mapping: *When private contractors take over a municipal water or sewer utility, one of the first thing they usually do is try to reduce operating costs by modifying energy and chemical usage and work processes. Accordingly, the UEI included identifying immediate and long-term improvements to water and sewer plant operational practices, including mapping and subsequent streamlining ("reengineering"). Such "quick wins", they hoped, would reduce some of the expected staff skepticism toward the UEI.*

7. Unify Maintenance and Investment Functions: *The Comprehensive Assessment found that Tulsa's maintenance and capital program functions acted with little collaboration. To counter this, the UEI would consolidate major decisions on maintenance and asset management under a single committee composed of maintenance and capital program managers.*

8. Strategic Business Plan: *Both TMUA and the Department of Water and Sewer lack a long-term strategy for limiting rate increases and governing the utility. Moreover, annual budget planning lacked long-term guiding objectives. Accordingly, the UEI would use the performance, operations, financial and asset condition data from the new information systems to support a business plan with measureable, quantified annual and long-term performance goals that could be tracked over time.*

9. Annual City-TMUA Performance Agreement: *TMUA is the steward of the utility enterprise funds, the segregated accounts funded by water and sewer charges, yet it exercises only indirect control over spending from the funds. Accordingly, the UEI would use the unique City-TMUA contractual relationship to establish annual performance goals that map to the Strategic Business Plan. Importantly, the Agreement would also include performance goals for each of the City support services provided to the Department of Water and Sewer Department, including human resources, procurement, legal, finance, customer service and engineering services ("Service Level Agreements").*

Building Momentum

Over the succeeding months, the UEI implementation plan was executed step by challenging step. The operational changes were the lowest hanging fruit. Within a few months after the UEI began, the utility was saving millions of dollars in energy and chemical costs. These quick wins made believers out of many UEI skeptics, building momentum that carried over to other departments.

Unfortunately, the utility was starting from scratch when it came to routine performance reporting. Large data gaps, especially in maintenance and asset condition, were exposed that had to be rectified before the systems could become reliable. Many of the new technologies took longer than planned to deploy. City IT staff were stretched to their limits while trying to get five new performance information and scheduling technologies up and running at the same time. Moreover, the UEI was partly dependent upon the deployment of new enterprise management systems for the City as a whole.

But despite all of these challenges, early and regular wins in various departments continued to build support among the staff. The new operations management software, Hach WIMS, was making it much easier to track what was happening in the plants and to fine-tune the treatment processes. The culture was changing. Employees were mapping their business processes on their own initiative, asking how the new tech tools could allow them to shorten the cycles, reduce operating costs and make the maintenance actions more precise and durable. Moreover, the staff completed the first iteration of a Strategic Business Plan, complete with detailed, quantified goals along with intermediate action items and measures of progress. It is the same plan that the TMUA board now uses to manage its semi-monthly meetings, including regular performance briefings by senior managers.

The biggest step came toward the end of 2016, when the new maintenance management systems came on line. This coincided with organizational changes that placed capital programming and maintenance – previously segregated and even sometimes competitive activities -- under a single asset management

committee. The combined result was that capital investment and major maintenance decisions began to be made in a much more informed way. Immediate savings of a few million were becoming potential savings of tens of millions. The UEI was on its way.

END

Panel Readings II: Private Non-Profit Regulated Utilities

1. Indianapolis Water: Request for Expressions of Interest
2. Citizens Energy Press Release: Agreement Reached On Operations of Water and Wastewater Systems
3. Frequently Asked Questions on Transfer of Water and Sewer
4. Memorandum of Understanding for Transferring Indianapolis Water and Sewer

Office of Mayor Gregory A. Ballard
City of Indianapolis
July 21, 2009

REQUEST FOR EXPRESSION OF INTEREST

The Office of Mayor Gregory A. Ballard of the City of Indianapolis (the "City") releases this Request for Expression of Interest (REI) with the intent to solicit the broadest array of approaches and ideas that will allow the City to produce finished drinking water, process wastewater and provide related infrastructure services in the most efficient and cost effective manner and to help the City satisfy the U.S. Environmental Protection Agency (USEPA) and Court mandated capital improvements in a manner that mitigates the affect on ratepayers.

I. Background

A. Purpose of Request

Indianapolis, like many large cities today, faces massive funding challenges related to maintaining its basic infrastructure. The estimated cost to bring our City's infrastructure to a fair condition exceeds $5 billion. It is estimated that over $4 billion is needed for improvements to the City's waterworks utility system ("Waterworks") and wastewater utility system ("Wastewater") and $1.5 billion for other basic infrastructure projects (roads, bridges, sidewalks and parks).

With unparalleled public and private sector support, the City has made significant investments recently in important, high-profile facilities. Our field house for basketball, new international airport, new football stadium, and expanding convention center are the result of investments in excess of $3 billion by our community. These noteworthy facilities are important investments that must be maintained, but the high-profile nature of such facilities must not distract us from the need to invest in our basic infrastructure: our roads, bridges, sidewalks, parks, and Waterworks and Wastewater systems.

Despite the recent major investments in our high-profile facilities, Indianapolis remains an affordable place to live, work, and visit. In fact, Indianapolis ranks as one of the most affordable major metropolitan areas in the country and, as a result, maintains a robust and diverse economy. In addition, new public safety strategies implemented have resulted in significant reductions in violent crime even as the economy worsens, making Indianapolis one of the safest, most livable big cities in the country.

Our challenge is to find creative alternatives to pay for the necessary upgrades to our basic infrastructure while maintaining our competitive cost structure relative to our peer cities in the Midwest. In this regard, we cannot rely on increased tax revenue from citizens, or higher fees from our ratepayers, to maintain and improve the quality of life and the competitive environment for job creation and attraction in Indianapolis, especially during challenging economic times.

The funding streams utilized for infrastructure upgrades and repairs have continued to decline. The structure of funding for local government in Indiana is based almost exclusively on property taxes, which are now capped at 1%, 2%, and 3% of assessed value for residential, rental, and commercial properties, respectively. Township, school, city, state government, and non-profit properties abound in our capital city and are not taxed, thus eliminating a major source of revenue to the City.

Yet the economic engine of Indianapolis provides employment not only for the citizens of the City, but citizens of surrounding communities. In Indiana, local income taxes are instituted on an optional basis by counties and are paid where you live, not where you work, further contributing to the City's challenges as many citizens commute to Indianapolis for work but live in communities outside the City. In addition, a significant portion of the sales tax revenue generated from Indianapolis economic activity does not accrue to

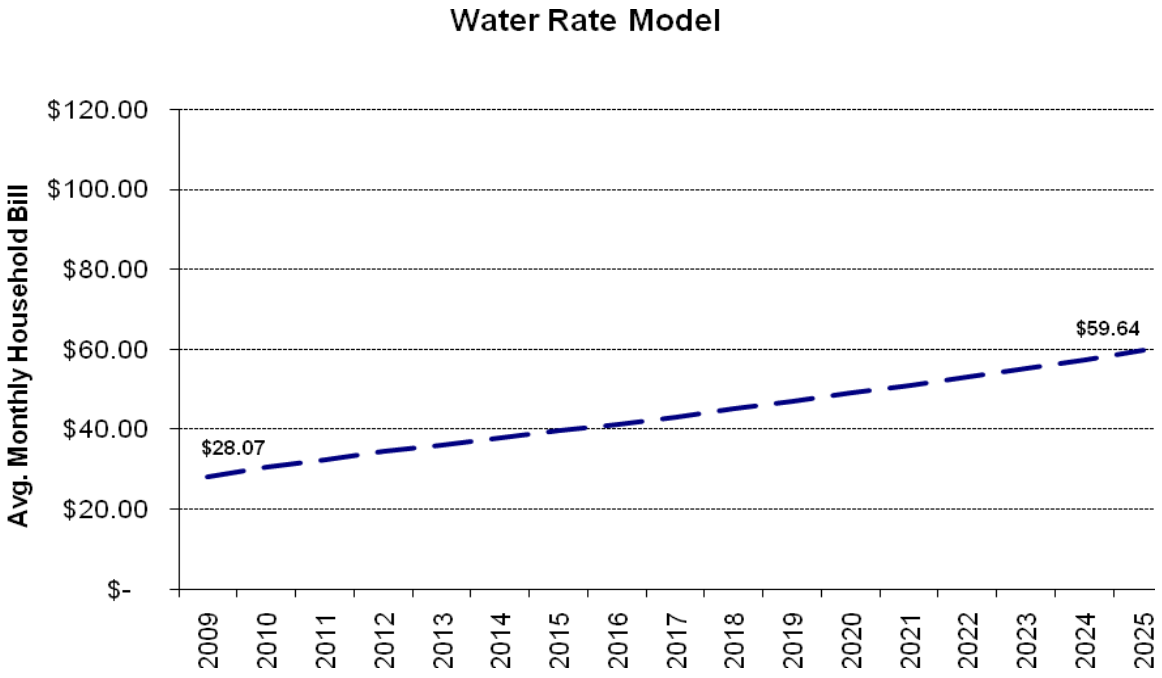
the City, but is collected by the state and used to support not only Indianapolis, but communities throughout the state. In short, only a fraction of those who work, shop, attend entertainment activities and utilize the City's infrastructure are contributing to the support of such infrastructure as a resident of the City. Finally, although it was hoped that federal stimulus funds would help solve infrastructure funding challenges, such funds will have very little impact in reality. As a result of the foregoing funding challenges, options to sustainably support the City's basic infrastructure are limited.

Aside from the significant funding challenges to adequately maintain the City's roads, bridges, sidewalks, and parks, the City's Waterworks and Wastewater systems, which are used by world travelers, Hoosiers, and citizens of Indianapolis alike, are facing severe infrastructure funding challenges. The City's Waterworks and Wastewater systems, which are operated by two separate private operators, serve a local population of between 850,000 and 1.1 million over an area of approximately 300 square miles.

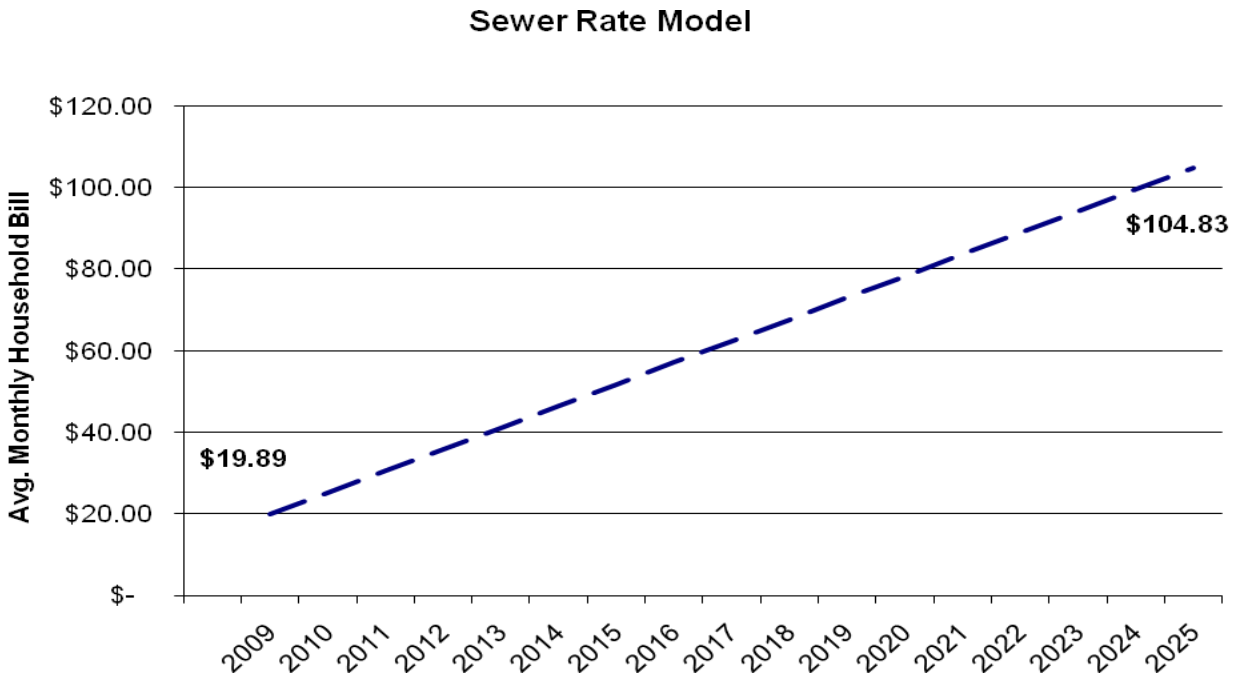
Built over the course of the prior two centuries, the City's Wastewater system has overflowed into our rivers and streams during significant rainstorms, polluting our environment with human waste. While this is accepted in many other cities across the country, the Mayor of Indianapolis considers this unacceptable. In 2006, the City entered into a consent decree with the U.S. Environmental Protection Agency (the "Consent Decree"), requiring substantial improvements to the combined sewer overflow (CSO) portions of the Wastewater system. The anticipated cost of these improvements, which must be completed by 2025, is between $1.4 and $1.7 billion.

In addition to these federally-mandated improvements, the City intends to make significant upgrades to other portions of the Wastewater system so that it can meet the growing needs of its users. For example, the City plans to convert up to 30,000 residences from septic systems to sewer connections as part of a septic tank elimination program (STEP), at an estimated cost of $800 million. The anticipated cost of other non-mandated upgrades to the Wastewater system is another $1.4 billion. In addition to the capital improvements needed to the Wastewater system, the capital improvements required to the Waterworks system are expected to exceed $600 million over the next 15 years.

In sum, the City expects to incur over $4 billion over the next fifteen years to upgrade its Waterworks and Wastewater system. To cover these costs, the rates for water and wastewater services are projected to rise 112% and 427% respectively by 2025. See the rate charts on the next page. The magnitude of these expenditures and the potential resulting impact on water and wastewater rates are the impetus behind the issuance of this REI.



- Source: Department of Waterworks operating and capital projections through 2012. Assumptions beyond 2012: 3% annual revenue growth, 2.5% annual growth in operating expenses, total CAPEX of $59 million in 2012 growing at 2.5% thereafter.
- Avg. household based on 7,000 gallons per month.



- Source: Department of Public Works. Year-to-year rate increases may vary based on construction schedules and cost of capital.
- Avg. household based on 5,400 gallons per month.

During 2008 and 2009, the City reviewed options for reducing infrastructure costs and driving efficiencies in order to move forward as quickly as possible with its crucial infrastructure upgrades before 2025. These initiatives are undertaken as part of Mayor Greg Ballard's commitment to address the infrastructure needs of the City. This commitment includes the Mayor's establishment of an Infrastructure Advisory Commission, composed of business leaders in the Indianapolis community. The Infrastructure Advisory Commission's objective is to make recommendations to the Mayor regarding potential long-term solutions to the City's critical infrastructure issues. Therefore, the Infrastructure Advisory Commission seeks national and international models and contemporary approaches for financing infrastructure improvements and their applicability to the City. These initiatives are also undertaken in recognition of the City's long-standing position as a national leader in developing innovative partnerships with the private sector to improve City services and achieve cost savings for the benefit of City residents.

In response to this REI, the City invites respondents to challenge the City's current thinking and suggest alternatives that help reduce the costs to ratepayers, make necessary investments in our basic infrastructure, and meet or exceed applicable environmental standards.

B. The City's Combined Waterworks & Wastewater Proposal

For reasons addressed in this section, the City believes that through a governmental or non-profit structure, it can realize significant savings against the: (1) projected $1.4 billion to $1.7 billion in federally-mandated capital costs required for upgrades to the CSO; (2) projected $1.4 billion in non-mandated capital projects to the Wastewater system; and (3) Waterworks and Wastewater combined projected operating costs by combining the operations of the Waterworks and Wastewater systems. First, the City is seeking to maximize cost effective completion of the City's planned capital improvements to its Waterworks and Wastewater system, in particular, meeting the requirements of the federally-mandated CSO improvements. Second, the City believes that synergies between the City's Wastewater and Waterworks utilities could be maximized through the creation of a combined utility structure (consider that just a 5% savings could yield $175 million). The goal of the City through these initiatives is to create savings. The City is engaged in an ongoing analysis of ways to maximize cost savings related to its utility systems. Through this REI, the City is inviting respondents to provide input to the City's analysis.

1. Synergies from Combined Waterworks & Wastewater Operations

The City's Waterworks and Wastewater systems are operated by private operators, Veolia and United Water, respectively. The City believes it is well positioned to help ratepayers by combining services between the Waterworks and Wastewater utilities thereby creating efficiencies in construction and the back office functions. For example, today, coordination between the Waterworks, Wastewater and other utility systems on construction projects on the same road is poor. But savings and better service should result from coordinated planning and construction. The City believes these synergies can be achieved without costs being shifted to avoid one system's ratepayers subsidizing the other system's ratepayers. The City is currently undergoing a Six Sigma program to improve coordination between the various City-owned and other utilities.

2. CSO and Other Capital Improvements: Faster, Better, Cheaper

With $1.4 to $1.7 billion in federally-mandated CSO construction planned over the next fifteen years and an additional $1.4 billion projected in non-mandated Wastewater capital improvements, the opportunity to have an impact in the tens, if not hundreds, of millions of dollars is feasible. The City believes that it is possible to construct the CSO improvements and other capital improvements faster (bringing environmental improvements and federal compliance faster), better (leveraging value engineering and most green/sustainable development practices), and less expensively (through a more coordinated process where

significant portions of the CSO and/or capital projects are constructed, rather than on a one off basis).

3. Public Debt Is Cheaper than Private Debt

The City recognizes that private sector creativity, innovation and basic business oriented discipline may bring significant savings to its large capital plan and to the operations and management of its utility assets. Private partners may also enable the City and its ratepayers to transfer or share project and performance risks in a cost effective manner. Moreover, it is equally important to safeguard the value inherent to U.S. local government enterprises including the long standing trust in public governance or regulation of utilities and the attractive financing rates and terms provided by the municipal debt markets. Unlike investor owned utilities with capital structures comprised of debt and equity, which today can amount to a 8-12% weighted average cost of capital, municipal utilities in the United States borrow generally 100% of their project costs at rates averaging about 5-7%. The City also has access to lower interest debt vehicles like the State Revolving Loan fund program, with interest rates as low as 2-3%. Additionally, municipal utilities are exempt from federal and state income taxes and the purchase of goods and services by municipalities are often exempt from sales taxes (which on large capital programs can be a significant cost item).

4. Significant Minority, Women, & Veteran Business Opportunities

The City believes that the combination of the Waterworks and Wastewater systems and the capital construction program present meaningful opportunities to make a significant, positive impact on disadvantaged minority, women, and veteran businesses.

5. Local Job Creation

At a time when the national economy is depressed, the capital construction program in particular presents the City with the opportunity for a massive construction jobs program. Local jobs must be created and/or maintained.

6. Reach Environmental Compliance Earlier with Sustainable Construction

Finally, the City believes the combination of Waterworks and Wastewater systems and the capital program construction presents meaningful opportunities to minimize the City's negative environmental impact and to leverage sustainable engineering and construction practices.

II. Partner Role

The City is seeking one or more partners to assist it in achieving its objectives. One partner may be able to achieve synergies and maximize cost savings through combined operation of the Wastewater and Waterworks utilities. The same or another partner may be able to maximize cost savings in the management of the Wastewater plants, collections systems, and capital improvements including those necessary to comply with the CSO mandates. Further, the City would put a premium on achieving not only these synergies and cost savings, but also any additional synergies and cost savings in other potential sectors which would benefit the inhabitants of the City. Interested parties may respond to this REI by expressing an interest in, and providing a structure for, all or a combination of the different components of this REI.

Regardless of the structure selected by the City, and assuming responses to this REI validate the City's current thinking on the opportunities as described in this REI, a partner will be expected to provide the highest available level of resources, skills and experience to the delivery of the required services, including the correct mix of technological, engineering, construction and management experience as necessary for the applicable services. To reiterate, the purpose of this REI is *not* to select a vendor or partner(s). The purpose

is to solicit feedback on the City's objectives and ideas from potential partners. Potential partners should base their responses on their past experience and capabilities, and propose potential methods through which the City may structure one or more transactions and help the City determine how to proceed in the best interests of the ratepayers.

With respect to the operations of the Wastewater and Waterworks utilities, and to the extent that these utilities are combined, the operator of the combined utility will be expected to maximize synergies related to the operations of these systems. With respect to the Wastewater (including CSO) capital improvements, the mandatory schedule will require that multiple projects be run concurrently, making progress as the distinct scopes of work are developed.

The City invites responses to its combined utility proposal that encourage thinking that maximizes operational synergies and reduces the costs of substantial capital improvements, and, in turn, creates a partnership on which the City officials can depend as they continue to address difficult challenges. The City, ratepayers, citizens and businesses must be assured that the operator has the public interest as its highest priority. Moreover, the City seeks *partners*, not *vendors* who use the term partnership as a euphemism for inactivity and self-interest. A new or modified model will provide the necessary flexibility to achieve the objectives of the City and, in the case of the Wastewater capital improvements, deal with schedule constraints, financial restraints and scope development.

In order to maximize value, the City and its advisors intend to work closely with its partner(s) to capitalize on value enhancing ideas and approaches and together develop a path that preserves municipal value advantages. The City believes that the opportunities for cost savings are significant, its capital needs are substantial and the solution may require new partnership models that combine the best of various approaches. The City and its advisors have already invested considerable time and resources identifying potential partnership approaches that, among other things, comply with Indiana law and the federal tax code. In responding to the REI, it is important to highlight points that would enable the City and its ratepayers to realize savings and to monetize those savings either upfront or over time in a cost effective manner.

Any partnership is expected to provide the following business opportunities to one or more strategic partners:

i. a long-term role in the operation of the City's Wastewater and Waterworks systems, including, potentially, an opportunity to share in the value of the synergies realized by the possible combination of the Wastewater and Waterworks utilities;

ii. an integral role in the management of the CSO, other Wastewater and/or Waterworks capital improvements, including an opportunity to share in gains made on scheduling and targeted construction costs for specific project components; and

iii. an acknowledged role for the broad array of local talent including those that are minority, women, and veteran owned companies.

III. Overview of Systems

A. Wastewater System

1. Operations

The City owns, operates, and maintains the Wastewater utility system (which includes CSO) through its Department of Public Works (DPW), which is governed by the Board of Public Works, a seven member board appointed by the Mayor of Indianapolis and the City-County Council. Wastewater serves a population of approximately 860,000 and covers an area of approximately 277 square miles. Wastewater rates are set by ordinance from the City-County Council.

The City's Wastewater service area comprises most of Marion County, Indianapolis, Indiana (the "County") and portions of adjoining counties. The City has inter-governmental agreements for wastewater treatment and disposal with the following satellite communities:

- Hamilton Southeastern Utilities (in adjoining Hamilton County)
- City of Lawrence
- Boone County Utilities
- City of Greenwood (in adjoining Johnson County)
- Tri-County Conservancy District
- City of Beech Grove
- Ben Davis Conservancy District

Each satellite community is responsible for the operation and maintenance of its own wastewater and storm water collection system. Within the County, the Town of Speedway owns and operates its independent wastewater collection and treatment system and does not have an inter-governmental agreement with the City.

Currently, United Water Resources, Inc. operates the wastewater system pursuant to an agreement with the City dated October 11, 2007 (the "Wastewater Management Agreement"). The term of the Wastewater Management Agreement is nine years, with an option of the City to extend it up to an additional 11 years.

The Wastewater system currently has approximately $461 million of outstanding, tax-exempt debt. The City currently receives from the Wastewater system an annual PILOT payment of approximately $9 million, which supports critical City services. Any transaction related to the Wastewater system will require an annual PILOT (or equivalent payment that will fund the same critical services as the PILOT) equal to at least $9 million and will need to address the Wastewater Management Agreement, including any termination fees, and the remaining outstanding debt related to the system.

2. Description of Wastewater Facilities

<u>Belmont Advanced Wastewater Treatment Facility</u>

The Belmont Advanced Wastewater Treatment Facility (the "Belmont Facility") is located at 2700 South Belmont Avenue, Indianapolis, Indiana. The Belmont Facility is designed to provide primary treatment for a peak flow of 300 million gallons per day (MGD), and secondary and tertiary treatment for a 120 MGD average daily flow and 150 MGD peak daily flow. The Belmont Facility discharges treated effluent into the White River under NPDES Permit No. IN0023183 with an effective date of February 1, 2008.

Liquid treatment facilities at the Belmont Facility include a headworks with influent pumps, bar screens and

grit tanks; primary settling tanks; flow equalization basins, biological roughing filters; an oxygen activated sludge nitrification system; secondary settling tanks; effluent filter system; a liquid chlorination/dechlorination disinfection system (conversion to ozone or alternative disinfection facilities planned by 2010); and a vacuum swing absorption oxygen generating plant.

The Belmont Facility treats sludge generated from the Belmont Facility and sludge generated from the Southport Facility (described in the subsequent paragraphs). Sludge treatment facilities include gravity thickening and sludge equalization tanks, gravity belt thickeners, a dewatering building with belt filter presses, an incinerator building with four multiple hearth furnaces, ash lagoons, and a truck loading building for dewatered solids that are disposed of off-site. There is also a low pressure secondary effluent pump station and a high pressure secondary effluent pump station.

Southport Advanced Wastewater Treatment Plant

The Southport Advanced Wastewater Treatment Facility (the "Southport Facility") is located at 3800 West Southport Road, Indianapolis, Indiana. The Southport Facility is designed to treat a 150 MGD peak daily flow and a 125 MGD average daily flow. The Southport Facility discharges treated effluent into the White River under NPDES Permit No. IN0023183 with an effective date of February 1, 2008.

Liquid treatment facilities at the Southport Facility include a headworks with influent pumps, bar screens and grit tanks; primary settling tanks; flow equalization basin, biological roughing filters; two nitrification activated sludge systems: one using oxygen and the other using air; effluent filter system; a liquid chlorination/dechlorination disinfection system (conversion to ozone or alternative disinfection facilities planned by 2010); and a vacuum swing absorption oxygen generating plant. The Southport Facility has an effluent pump station that is used during high river stage. Primary and waste activated sludge is pumped from the Southport Facility to the Belmont Facility through dual force mains.

Wastewater Collection System/Combined Sewer Overflow

The City's Sewer Collection System consists of approximately 246 miles of interceptor sewers, 3,000 miles of local collection lines, an estimated 77,000 manholes, approximately 35,000 basin/inlet structures, and an estimated 275 lift stations. The combined sewer system was constructed in the early 1900s and encompasses approximately 56 square miles of tributary area and 63 miles of interceptor sewers located primarily within the City's central business district. The CSO is constructed as relief points throughout the combined sewer system and is designed to discharge overflows from the system caused by excessive amounts of storm water.

3. Capital Projects-Combined Sewer Overflow and Sewer Infrastructure Improvements

In September of 2006, the City entered into a Consent Decree with the USEPA that binds the City to make certain improvements to the combined sewer system by 2025 as outlined in their approved "Raw Sewage Overflow Long Term Control Plan and Water Quality Improvement Report" (Indianapolis Clean Stream Team, September 2006). The cost of that plan was originally estimated at $2.1 billion (in 2009 dollars), prompting DPW to negotiate a revised program with the USEPA designed to reduce cost while still achieving compliance with the CSO abatement goals. Several changes have been made to the original plan since execution of the Consent Order, including:

- Replacement of the Interplant Connector soft ground, shallow tunnel with a Deep Rock Tunnel Connector (DRTC);
- Replacement of the Trickling Filter/Solids Contact (TFSC) treatment plant upgrades with a Conventional Activated Sludge system; and,

- Additional Value Engineering (VE) efforts have identified an additional 14 projects where substantial capital and/or operational cost savings are achievable subject to USEPA approval.

The following table lists the key CSO projects required by the Consent Decree.

Project	**Achievement of Full Operation**	**Estimated Costs (in 2009 dollars)**
CSO storage tunnel	2021	$297,000,000
Deep Rock Tunnel	2016	$295,000,000
Belmont AWT wet weather treatment	2012	$122,000,000
Pleasant Run relief interceptor	2021	$85,000,000
Southport AWT plant improvements	2021	$75,000,000
Effluent pump station/force main at Belmont AWT	2016	$73,000,000
Pogues Run CSO storage and primary treatment	2021	$30,000,000
Fall Creek CSO consolidation	2025	$26,000,000
Eagle Creek interceptor	2015	$23,000,000

In addition, approximately $1.4 billion is needed for non-mandated capital improvements to the sanitary sewer system, as detailed in the "Marion County Sanitary Sewer Master Plan" (HNTB, September 2004). The septic tank elimination program (STEP) is estimated to cost approximately $800 million for the replacement of all 30,000 residences ("Septic Tank Elimination Program Master Plan Update", April 2009).

B. Waterworks System

1. Operations

The City owns, operates, and maintains the Waterworks through its Department of Waterworks (DOW) which is governed by the Board of Waterworks, a seven member board appointed by the Mayor of Indianapolis and the City-County Council. The Waterworks is regulated by the Indiana Utility Regulatory Commission (IURC).

The Waterworks serves the majority of the County and portions of Morgan, Hendricks, Johnson, Hancock, Hamilton, and Boone counties pursuant to inter-governmental agreements. The Waterworks serves approximately 275,000 households or approximately 1.1 million people. Approximately 75% of the customers are located in Marion County. The average daily production of finished water is approximately 140 MGD with 228 MGD produced on the peak day in July of 2007. Approximately 20% of the average

daily production of the source waters are from groundwater sources. The remainder of the water supply, approximately 80% of the average daily production, is supplied from surface water sources.

Currently, Veolia Water Indianapolis, LLC operates the Waterworks pursuant to an agreement with the City dated March 21, 2002 and amended on or about June 26, 2007 (the "Waterworks Management Agreement"). The term of the Waterworks Management Agreement is 20 years. In its most recent waterworks rate order, the IURC has challenged the Waterworks to improve current operations and make additional efforts to reduce the Waterworks operating costs. The IURC recognized that the Waterworks has minimized some costs but believes it is essential to take additional steps to improve efficiencies and reduce and contain operational expenses.

The Waterworks system currently has approximately $843 million of outstanding, tax-exempt debt. The City currently receives an annual PILOT payment of approximately $10 million from the Waterworks system. Any transaction related to the Waterworks will require an annual PILOT payment of at least $10 million and will need to address the Waterworks Management Agreement, including any termination fees, and the remaining outstanding debt related to the system.

2. Description of Waterworks Facilities

The Waterworks includes 10 water treatment plants (WTPs), as summarized in the following table.

Water Treatment Plant Summary

WTP Name	**Water Source**	**Approximate Average Annual Flow Rate**	**Approximate Percent of the Total Flow**
White River WTP	Aqueduct from the White River and wells	76 MGD	54%
Fall Creek WTP	Fall Creek through Geist Reservoir and wells	22 MGD	15%
White River North WTP	White River and wells	16 MGD	11%
T.W. Moses WTP	Eagle Creek through Eagle Creek Reservoir	8 MGD	6%
Ford Road WTP	Wells	1 MGD	1%
Geist WTP	Wells	2 MGD	1%
Harding WTP	Wells	3 MGD	2%
South Well Field WTP	Wells	7 MGD	5%
Harbour East WTP (not in use)	Wells	3 MGD	2%
Harbour West WTP (not in use)	Wells	2 MGD	1%
TOTALS:		**142 MGD**	**100%**

Four WTPs are surface water treatment plants servicing 15 districts. Eight WTPs are groundwater plants. The four surface water plants are:

- White River WTP
- White River North WTP
- T.W. Moses WTP
- Fall Creek WTP

Of these surface water plants, White River WTP and White River North WTP treat water from the White River. The T.W. Moses WTP treats water from Eagle Creek. The Fall Creek WTP treats water from Fall Creek. The largest and oldest of the WTPs, with a design capacity of 96 MGD, is the White River WTP. The T.W. Moses WTP is the fifth largest facility with a design capacity of 16 MGD. The Fall Creek WTP is the second largest and next oldest facility with a design capacity of 32 MGD. The flow of water in the White River and Fall Creek can be supplemented by two water supply reservoirs, Morse Reservoir and Geist Reservoir. Morse Reservoir contributes to the flow in White River, while Geist Reservoir contributes to the flow in Fall Creek.

There are six groundwater treatment plants:

- Harbour East (not in use)
- Harbour West (not in use)
- South Wellfield
- Harding
- Ford Road
- Geist

Most of the groundwater facilities were built after 1989. The South Wellfield WTP, originally constructed in 1997, has recently been expanded to treat 24 MGD making it the largest groundwater treatment plant, equaling the capacity of the White River North WTP. The Harding WTP is located very close to the South Wellfield WTP. The Harding WTP, which has a design capacity of six MGD, may be abandoned. In that event, the South Wellfield WTP would provide water to the service area of the Harding WTP. The remaining groundwater treatment plants, Ford Road WTP and Geist WTP, have design capacities of 4 MGD and 2.6 MGD, respectively.

The Waterworks includes six wellfields as part of the water supply to their customers. These wellfields and their corresponding WTPs are listed below.

Wellfields	Plants	No. Wells	Approx Max. Yield
Riverside/White River Wellfield	White River WTP (treats both surface water and groundwater)	19	23.11 MGD
Fall Creek Wellfield	Fall Creek WTP (treats both surface water and groundwater)	8	11.23 MGD
South Wellfield	South Wellfield WTP and Harding Road Stations WTP	11	24.05 MGD
Geist Wellfield	Geist WTP	3	6.05 MGD
Ford Road Wellfield	Ford Road WTP	4	2.59 MGD
Harbour Wellfield (not in use)	Harbour East WTP and Harbour West WTP	8	7.35 MGD
Approximate Totals		**58**	**76.87 MGD**

Combined, these wellfields can supply up to approximately 40% of the water handled by the Waterworks, or approximately 60 MGD.

Finished water is stored in several ways. Much of the system volume is stored in 10 ground storage tanks and seven underground storage reservoirs before being pumped into the distribution system. Four of the ground storage tanks are located at WTPs. The remaining six storage tanks are associated with booster pump stations. The seven underground storage reservoirs are located at the WTPs.

In addition to the ground storage tanks and underground storage reservoirs, there are 12 elevated storage tanks. The tanks range in size from 0.25 million gallons (MG) to 2 MG. The ages of the tanks range from two to 52 years.

There are 31 pump stations within the distribution system. Twelve of the pump stations are located at WTPs. The remaining 19 are booster pump stations located in the distribution system, 18 of which are in operation. In the system, there are also 23 bleeder valves, which are used to control flow between districts. There are also six pressure reducing valves (PRV). These valves operate automatically to compensate for pressure loss in a district. The Waterworks system also contains approximately 4,000 miles of water main, 32,000 valves, and 30,000 fire hydrants.

The Computer Control System (CCS), located on Waterway Boulevard, runs the distribution system. All storage tank and reservoir elevations are monitored. Operators at the CCS also control the booster pump stations and the pump stations at the WTPs. Within the distribution system, they control the bleeder valves. When water is needed, the staff at the CCS contacts the WTPs, and tells them to produce water. Using their control of the distribution system, they are able to direct the water to where the demand is occurring. There is no direct control of the WTPs treatment processes themselves through the CCS.

Within the Waterworks system, there are 15 districts and four sub-districts. A district and sub-district is a part of the system that is defined by the pressures within the area and is typically isolated from the remainder of the system by one or more pressure reducing valves (PRVs), bleeder valves and pump stations.

The Waterworks historically has employed a strategy of mixing groundwater and surface water in order to achieve optimum supply. It is expected that, with the passage of time, the supply sources and distribution of water will change.

The service area of the Waterworks continues to grow. Most recently, the number of customers has grown by approximately 3% to 5% per year. Growth is expected to continue. Proposal should anticipate reasonable growth. Proposals should, however, address extraordinary events of growth or contraction, and offer suggestions concerning how such events will be accounted for in future planning activities.

3. Capital Projects - Waterworks

The overall capital improvement program (CIP) for the Waterworks system is expected to exceed $600 million over the next 15 years. Of that amount, about $163 million in capital needs have been specifically identified for expenditure through the year 2012. The major components of the short-term CIP are as follows:

- Underground infrastructure rehabilitation and replacements system-wide ($33 million)
- New intake structure for White River Treatment Plant ($21.5 million)
- Installation of ultraviolet disinfection system at White River North and Fall Creek Treatment Plants ($16 million)
- Meter, valve and hydrant replacements system-wide ($18 million)
- Increase filter capacity at all treatment plants ($12 million)
- Low head dam construction at Fall Creek Treatment Plant ($7 million)
- New elevated storage tanks at Stop 11 and Bunker Hill ($7 million)

C. Storm Water System ("Storm Water")

In 2001, the City-County Council, through the enactment of General Ordinance No. 43-2001 (GO43), authorized the creation of the Marion County Storm Water Management District (MCSWMD). This action followed the publication of a Storm Water Master Plan in 1998 that identified over $300 million in drainage and storm water maintenance and capital improvement projects throughout Marion County. GO43 also established a storm water user fee as a funding mechanism for capital needs, and named DPW as the department responsible for storm water system management.

The Storm Water system includes the Eagle Creek Dam that is located at the City's Eagle Creek flood control, recreation, and water supply reservoir in Indianapolis, Indiana. It consists of approximately 200 acres of grassed area, 5,200 feet of fence, an earthen dam 4,200 feet in length and 75 feet in height, and a concrete spillway with six mechanized tainter gates. The dam allows for withdrawal for water supply and a minimum release of flow is to be maintained at all times.

The current storm water user fee of $2.25 per month per Equivalent Residential Unit generates approximately $19 million per year in revenue. The current budget indicates operations and maintenance expenses of $13 million, which when combined with the $15 million per year in capital needs, exceeds the revenue by $9 million annually. *This revenue shortfall makes the monetization of storm water utility fees impractical without a significant rate increase, and should therefore be excluded from the analysis at this time*.

IV. Submission Contents

Respondents to this REI are encouraged to provide each of the following (to the extent relevant based on the parts of this REI the respondents wish to submit a response):

1. Name and contact information (address, phone, fax and email) for the individual who will act as the respondent's principal contact throughout the REI process and description of the individual members of the respondent's team with experience related to the objectives of the City as described in this REI.

2. A description of the respondent's technical and practical experience in the following disciplines, to the extent each is applicable, and how this experience can advance the objectives of the City related to this REI:

a. Operations and Management - provide examples to demonstrate capabilities in managing and operating municipal waterworks, wastewater systems and/or combined utilities, as applicable.

b. Process Design - provide examples to demonstrate capabilities in leading edge treatment process and design for waterworks, wastewater and/or combined utilities, as applicable.

c. Engineering - provide examples to demonstrate capabilities relating to all aspects of engineering used on waterworks, wastewater and/or combined utilities, as applicable, treatment facilities upgrade, expansion and capital improvements.

d. Project Management - provide examples to demonstrate significant capabilities in project management of large ($500 million +) wastewater upgrade and expansion projects, and, if possible, combined sewer overflow construction.

e. Construction Experience - provide examples to demonstrate significant construction capabilities associated with the upgrades and expansions to wastewater plants and combined sewer overflow systems.

f. Associated Experience - provide examples to demonstrate other capabilities in waterworks, sewage treatment and combined sewer overflow and/or combined utilities, as applicable.

g. Public-Private Partnerships - provide examples of structuring long-term public-private partnerships in the field of waterworks, wastewater and/or combined utilities, as applicable, including capabilities with various models for the cost-effective, timely delivery of specific projects.

h. Financing Models - provide examples of strategic partner financing arrangements and examples of specific project financing arrangements within your experience.

i. Local Contracting Partners - provide examples of past practice of partnering with local contractors and minority, women and veteran businesses on similar projects, consistent with the City's objective of maximizing local contractor and minority, women and veteran business participation in the transactions contemplated by this REI.

j. Environmental Sustainability and Stewardship - provide examples of efforts to promote environmental sustainability and stewardship in past projects related to the operation of municipal utilities, including waterworks, wastewater systems and/or combined utilities and/or large wastewater capital improvement construction projects.

3. Reference names and addresses for each example provided.

4. Potential structures for (a) the combined operation of the Wastewater and Waterworks systems and/or (b) the Wastewater, including CSO, capital improvements that advance the City's objectives as described in this REI.

5. Proposed synergies (both operational and financial, including potential cost savings accruing to the benefit of the residents of the City) that can be achieved through the combined operation of the Wastewater and Waterworks systems.

6. Proposed cost effective solutions/procurement and contract models for effecting the design, construction and operation of the Waterworks and Wastewater (including CSO) capital improvements, including a description of potential cost savings that can accrue to the benefit of the residents of the City.

a. Provide your thoughts on: (1) the current construction market; (2) availability of insurance and bonding for projects; (3) access to credit and financing; and (4) how current conditions could be used to the advantage of the City, including possibly accelerating all or part of the capital program.

7. A suggested Risk Matrix to illustrate your proposed allocation or sharing of risks:

a. As between the City and strategic partner under a long-term contract related to the combined operation of the Wastewater and Waterworks systems; and

b. As between the City and strategic partner with respect to the Waterworks and Wastewater, including CSO, capital improvements.

8. Suggested partner options, if any, for participating in financing related to (a) the combined operation of the Wastewater and Waterworks systems and (b) the Waterworks and Wastewater, including CSO, capital improvements.

9. A description of your experience with various compensation models for (a) the combined operation of the Wastewater and Waterworks systems and (b) the Waterworks and Wastewater, including CSO, capital improvements.

10. Suggestions regarding the maximum lengths (including renewal terms) of strategic partnership arrangements for (a) the combined operation of the Wastewater and Waterworks systems and/or (b) the Waterworks and Wastewater, including CSO, capital improvements.

V. Process and Schedule

A. Submission Deadline

Responses to this REI should be submitted by: 4:00 p.m. EDT, August 21, 2009.

B. Schedule

The City will decide whether or not to move forward with a Request for Proposal (RFP) or an alternative transaction structure or structures based on the submissions in response to this REI.

VI. Submission Requirements

A. Submission Format

Each submission should be bound and typed; single sided, on $8^1/2$" x 11" paper in English using no less than 11 point font with 1" margins. Drawings or other graphic representations may be provided on 11" x 17" paper. The submissions should include a table of contents, identifying the major sections as outlined herein, and any illustrations, tables, charts or graphics included in the Proposal. Submissions (including all exhibits and attachments) shall not exceed 30 pages. A complete copy of the proposal should also be submitted in PDF format, emailed to mhuber@indy.gov or sent on a compact disc along with the written proposal.

B. Submission Delivery

Each submission shall be delivered to:

Michael Huber
Director of Enterprise Development
Office of the Mayor
2501 City-County Building
200 East Washington Street
Indianapolis, Indiana 46204
office 317.327.3622
mhuber@indy.gov

VII. Inquiries

Any questions related to this REI should be directed to:

Michael Huber
Director of Enterprise Development
Office of the Mayor
2501 City-County Building
200 East Washington Street
Indianapolis, Indiana 46204
office 317.327.3622
mhuber@indy.gov

VIII. Privilege Clause; Right to Alter

A. Notwithstanding any other provision in this REI, the City may, in its sole discretion, (1) determine to enter into one or more transactions related to (a) the combined operation of the Wastewater and Waterworks systems and/or (b) the Waterworks and Wastewater, including CSO, capital improvements, which transaction or transactions may be structured by the City in a manner determined to be in the best interest of the City and (2) elect not to proceed with an RFP or with any transaction contemplated by this REI.

B. The City is under no obligation to respondents to this REI. The City may, in its sole discretion, decide not to proceed with any or all of the transactions contemplated herein or may proceed with such transaction or transactions by any other procurement means or delivery model it may deem fit.

C. The City further reserves the right to selectively identify on the basis of demonstrated qualifications and experience, some, but perhaps not all, respondents to this REI for participation in the presentation stage of this REI process, and for further participation in any RFP that may be issued or direct negotiations that may be entered into in relation to the transactions contemplated by this REI.

D. The City reserves the right to alter any of the conditions and criteria outlined in this REI, including the deadline for submissions, by posting addenda on the City's website at http://www.indy.gov/eGov/City/Controller/Purch/Bids/Pages/BiddingOpportunities.aspx.

IX. No Contract; Costs and Expenses; Additional Information

A. This is an inquiry only. By responding to this REI with a written submission or otherwise participating in the process as outlined in this REI, each submitting party expressly agrees that no contract of any kind is formed under, or arises from this REI and that no legal obligations as between any one or more proponents and the City will arise.

B. Each respondent is solely responsible for its own costs and expenses in preparing and submitting a response to this REI and participating in the REI process, including the provision of any additional information or attendance at meetings or interviews.

C. The City shall have no monetary obligation to any respondent to this REI. The City will make information available to respondents via its website at http://www.indy.gov/eGov/City/Controller/Purch/Bids/Pages/BiddingOpportunities.aspx and will not respond to requests for additional information or make copies of documents as part of this solicitation process.

X. Ownership of Submissions & Public Records Act

The City will be entitled to retain all submissions received in response to this REI without pay or compensation. Submitting parties are advised that the City is subject to Indiana Access to Public Records Act, and that any documents or other records provided to the City may, by law, be subject to disclosure.

Please be advised that all responses will be posted online and available to the public at http://www.indy.gov/eGov/City/Controller/Purch/Bids/Pages/BiddingOpportunities.aspx shortly after they are received by the City.

PRESS RELEASE

FOR IMMEDIATE RELEASE
Oct. 28, 2010

Media Contacts
Dan Considine
Manager, Corporate Communications
Citizens Energy Group
dconsidine@citizensenergygroup.com
(317) 927-4718

Paula Freund
Press Secretary
Office of Mayor Greg Ballard – City of Indianapolis
pfreund@indy.gov
(317) 464-7112

Lou Ann Baker
Vice President of Communications and Community Affairs
Veolia Water Indianapolis, LLC
louann.baker@veoliawaterna.com
(317) 263-6572

AGREEMENTS REACHED ON OPERATIONS OF WATER AND WASTEWATER SYSTEMS

Ensures Timely Savings and Safe, High Quality Service for Customers

INDIANAPOLIS – The City of Indianapolis and Citizens Energy Group announced today that agreements have been reached concerning the ongoing management of the water and wastewater systems that will achieve timely realization of savings for ratepayers by maximizing efficiencies among combined utilities, while ensuring safe and high quality utility service.

This past July, the City-County Council approved Mayor Ballard's proposal to transfer the water and wastewater systems to Citizens, a nonprofit public charitable trust. The transfer is expected to result in combined water and wastewater rates being 25 percent lower than current projections and to create more than $425 million for investment in critical infrastructure such as bridges, streets, sidewalks, parks and to remove hundreds of abandoned homes across the city.

The transfer is currently pending approval by the Indiana Utility Regulatory Commission (IURC). A decision from the IURC is not expected until next spring.

After extensive, good-faith negotiations, the City, Veolia Water and Citizens have agreed to transition operations of the water system to Citizens next year. Under the terms of the transition agreement, Veolia will continue to operate the water system through the closing of the utility transfer. This agreement is also subject to IURC approval and will be filed with the IURC tomorrow.

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“Transitioning operation of the water system to Citizens next year will help us to achieve $60 million in annual savings, while ensuring safe, high quality water service for the people of Central Indiana. These savings will result in 25 percent lower combined water and wastewater rates by 2025 compared to current projections,” said Carey Lykins, president & CEO of Citizens Energy Group.

“Since the Council’s approval of the utility transfer, we have worked with Citizens and Veolia to forge an agreement that is in the best interest of utility customers, employees and the Indianapolis community,” said Chris Cotterill, chief of staff, City of Indianapolis. “We appreciate Veolia’s decision to work in a spirit of partnership with the City and Citizens to reach an agreement that ensures a smooth transition for all community stakeholders.”

Veolia Water has operated the water system since 2002 when the City acquired the system from NiSource, Inc. Since that time, Veolia has improved operations of the system and invested significantly to upgrade the system.

With this agreement, Veolia will be paid $29 million as an early termination fee as contemplated in the contract entered into by the City and Veolia in 2002. The payment reimburses Veolia for investments it made to improve the system at the company’s cost, which had originally anticipated a 20-year rate of return. The termination payment will not raise water rates because it will be funded by the escrow account established by the utility transfer.

“Veolia is proud of the accomplishments of our employees and their improvements to the water system for Central Indiana,” said David Gadis, president of Veolia Water Indianapolis. “Through our extensive research and development efforts and the addition of new technologies, greater system efficiencies and higher quality drinking water have been produced.”

Gadis added, “We recognize the City’s transaction with Citizens provides an unprecedented opportunity to raise the capital it needs to improve the city’s infrastructure. Our highest priority has been to provide the people of Indianapolis with a reliable system that provides the community with safe, high-quality drinking water. We are dedicating our company, our people and our resources to the important job of transitioning the water system and related services in a way that will continue to benefit the community.”

Citizens has agreed to take assignment of United Water’s current contract with the City to operate the wastewater system. “United’s contract, which expires in 2016, provides a scope of operations for the wastewater system that will allow Citizens to achieve the efficiencies and associated savings we believe customers expect,” Lykins said.

Since the Council’s approval, Citizens has been carefully planning the integration of the water and wastewater utilities into Citizens’ family of companies. Citizens expects to consolidate some functions of the combined utilities during the three-year utility integration period, and plans to achieve staff reductions through attrition whenever possible.

Lykins stressed that retaining water and wastewater employees will be key to a smooth transition moving forward. “We need the fine experienced men and women now providing water and wastewater service to the Indianapolis community. We look forward to welcoming the water and wastewater employees into the Citizens family. The integration of the water and wastewater utilities into Citizens will not result in significant loss of jobs since most of the savings we have projected are from supply chain efficiencies,” Lykins said.

-MORE-

As stated in the definitive agreements for the utility transfer, all current bargaining unit employees of the water system will be employed by Citizens if they desire. All union employees at the wastewater system will continue to be employed by United. Regarding City employees, Citizens will offer jobs to 34 employees from the Department of Public Works (DPW) and four employees from the Department of Waterworks (DOW). DPW and DOW employees not hired by Citizens will be retained by the City. Non-bargaining unit employment needs will be determined throughout the integration process with any non-bargaining staff reductions being achieved through attrition whenever possible.

"We look forward to providing opportunities for water system employees to continue their careers with Citizens. Working together, I know we can create a new Citizens that will further the promise of the public charitable trust to add value to this wonderful community," Lykins said.

Since the announcement of the utility transfer proposal on March 10, 2010, Mayor Ballard, his administration and Citizens have focused on transparency to ensure the public is informed and educated on all aspects of the proposal. Representatives from the Mayor's Office and Citizens have held more than 60 public forums and meetings with key stakeholder groups. The City and Citizens also have been engaged throughout the process with public and technical advisory groups that are providing valuable input on the operations of the drinking water, stormwater and wastewater systems.

For more information about the transition agreement with Veolia, visit www.indy.gov/utilities, log on to the FTP site, ftp://ftp.indygov.org/utilities (username: public; password: public) or call (317) 327-4MAC. To access the filing documents, log on to the IURC's Electronic Document System (EDS) at https://myweb.in.gov/IURC/eds/. Once you access the EDS, click the cases link. In the docket number field, type the number 43936 and click the search button. To access the filings, click the Filings\Docket Entries button.

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Better Utilities and a Better City

Frequently Asked Questions

Q. What are the benefits of transferring the City's water and wastewater utilities to Citizens Energy Group?
A. Transferring the City of Indianapolis' (City) water and wastewater utilities to Citizens Energy Group (Citizens) is the right choice for the City. Citizens will keep our community's water systems under local, public ownership to be managed like a not-for-profit for community benefit.

Citizens is a utility industry leader in customer satisfaction and operational excellence according to independent studies by organizations including J.D. Power & Associates. The transfer to Citizens will ensure outstanding service at rates approximately 25 percent lower by the year 2025 than any other option presented to the City. Lower rates improve the City's quality of life, while encouraging job creation and economic growth for many years to come. Finally, the transfer will protect the interests of all utility customers, while providing the City with more than $425 million for much needed infrastructure investments such as improvements to streets, sidewalks, bridges, curbs, parks and make critical infrastructure.

Q. Who would approve the transfer of the water and wastewater assets to Citizens and how long will the process take?
A. The Mayor intends to file legislation for the utility transfers with the Indianapolis City-County Council on April 16, 2010. In addition to approval by the City-County Council, the utility transfer must be approved by the Board of Waterworks, the Board of Public Works and the Indiana Utility Regulatory Commission. Full approval would likely take place in late 2010.

Q. How much does Citizens intend to pay for the transfer of the water and wastewater systems, how was the value of the systems calculated and how will the transfer be financed?
A. Pending Board of Waterworks, Board of Public Works, City-Council Council and IURC approval, the City will receive more than $425 million in connection with the transfer of the utilities to Citizens. Upon receipt of necessary approvals and negotiation of final agreements, the City will receive a payment from Citizens in the amount of $262.6 million ($170.6 paid at closing and $92 million paid on October 1, 2011), plus up to an additional $50 million from the wastewater general fund that will remain with the City upon the transfer of the wastewater system.

In addition, the proposed transfer will increase the annual payment in lieu of property taxes (PILOT) as a result of the significant capital spending associated with the Wastewater System. The City will monetize the increase of PILOT payments in the form of a bond issuance with anticipated proceeds of $140 million, with such proceeds used by the City to fund necessary infrastructure improvements (with Citizens assuming the obligation to pay the increased PILOT). In addition, Citizens agrees to assume approximately $1.5 billion of City debt (combined debt of waterworks and wastewater).

Q. How does your proposal lead to reduced rates for customers? Will rates decline from current levels, or will the rate of increase simply be lower under your proposal?
A. Water and wastewater rates will go up under every scenario the City considered during the Request for Expression of Interest and its own research conducted with the assistance of the Infrastructure Advisory Commission. Rates will go up primarily due to necessary infrastructure investments, including those required under a Consent Decree with the U.S. Environmental Protection Agency.

Citizens would provide the lowest rates of all the options available to the City as a result of several factors:

- First, lower rates are achieved because Citizens operates like a not-for-profit only for the benefit of customers and the community, rather than having to focus on quarterly profits and dividends as investor-owned utilities must do. Selling or leasing the water and wastewater assets to an investor-owned company would result in higher rates.
- Second, lower rates under Citizens are achieved through approximately $40 million in annual savings from operational coordination and shared services among the combined gas, steam, chilled water, water and wastewater utilities. No other option available to the City could produce savings anywhere close to this number.
- Third, lower rates are achieved because Citizens has access to tax-exempt financing which lowers the cost of capital compared to investor-owned utilities.

Q. Will Citizens pay for the transfer of the water and wastewater systems by raising rates for gas or thermal customers?
A. Transferring the water and wastewater utilities will not result in increased natural gas or thermal rates. Instead, it is anticipated that more than $40 million in annual savings will be achieved by combining water, wastewater, gas, steam and chilled water systems under Citizens. Each utility under the Citizens umbrella would continue to be regulated separately by the Indiana Utility Regulatory Commission.

City of Indianapolis
Gregory A. Ballard, Mayor

citizens energy group™

www.indy.gov/utilities

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(continued from front)

Q. The water and wastewater utilities are now suffering from years of under investment in infrastructure. How well-maintained is Citizens' utility infrastructure and is Citizens committed to making the proper investments in the water and wastewater infrastructure moving forward?

A. Citizens has very well-maintained natural gas, steam and chilled water systems. In fact, its gas system was ranked among the best of 10 peer utilities for operations and maintenance metrics in a recent utility benchmarking study conducted by the IURC and the Indiana Office of Utility Consumer Counselor. Citizens is committed to making all of the necessary investments in the water and wastewater utility infrastructure to ensure system reliability and compliance with federal environmental mandates. Specifically, Citizens will make the necessary investments to solve the City's combined sewer overflow problem that results in raw sewage flowing into the White River and other streams during rainfall events and heavy snow melts.

Q. What body will govern the new water and wastewater entity after the transfer to Citizens? Will there be adequate public accountability with Citizens running the water and wastewater systems?

A. Citizens Energy Group is governed by a five-member, non-partisan Board of Trustees and a seven-member, non-partisan Board of Directors as established in Indiana Code 8-1-11.1-1. According to the statute, the trustees' exclusive function is to make nominations for vacancies to both boards and "nominees shall be appointed by the mayor of the consolidated city (Indianapolis) within 10 days after receiving such nominations." The Board of Directors has primary oversight for the current management and long-term direction of the company.

The Citizens Energy Group Board of Directors and Board of Trustees are fully accountable to state and local elected officials, regulators and of course, customers. Our boards strongly consider input from elected officials because they represent the owners of the Trust – the citizens of our community. Made up of 12 accomplished citizens of Marion County, Citizens' Boards include retired and current leaders of corporations, such as Eli Lilly and Company, and major nonprofit organizations, like Goodwill Industries (see list below). Board members receive modest compensation for their service. Further accountability is ensured because Citizens is regulated by the Indiana Utility Regulatory Commission and other agencies including the Indiana Department of Environmental Management and U.S. EPA.

Citizens Energy Group Board of Trustees:

- Board President Daniel F. Evans, President and CEO, Clarian Health Partners
- Board Secretary Dr. Gerald L. Bepko, Trustee's Professor Indiana University School of Law
- Dennis Bland, President, Center for Leadership Development
- Kathryn G. Betley, civic leader and community volunteer

Citizens Energy Group Board of Directors:

- Board President Martha D. Lamkin, Retired President and CEO, Lumina Foundation for Education
- Board Treasurer Lawrence A. O'Connor, Jr., Interim Director and CEO Indianapolis Museum of Art, Executive Director Butler Business Accelerator
- Board Secretary Dorothy J. Jones, Former President, BOS Community Development Corp.
- Daniel C. Appel, President, Gregory & Appel Insurance
- Anne Nobles, Senior Vice President of Enterprise Risk Management and Chief Ethics and Compliance Officer, Eli Lilly and Co.
- James M. McClelland, President, Goodwill Industries of Central Indiana, Inc.
- Anita J. Harden, Retired President, Community Hospital East.

Q. Why should elected officials give up direct control of our community's water systems?

A. History teaches us that sometimes it is better for elected officials to give up direct control of certain functions. In 1887, Indianapolis community leaders, including Colonel Eli Lilly, created the Citizens Public Charitable Trust, now Citizens Energy Group, to protect the community's natural gas system from takeover by profit-driven monopolies and from the uncertainties of changing political forces. Rather than being managed as part of the political process, the publicly-owned trust is managed by a non-partisan board of directors that ensures the utility is operated like a not-for-profit only for community benefit. Over the past 123 years, Citizens has become an industry leader for customer satisfaction and operational excellence, according to independent studies by organizations including J.D. Power & Associates.

Today, our community is having much the same debate concerning our water and wastewater utilities, which are experiencing unmanageable rate increases and financial instability. The proposed transfer of the water and wastewater utilities to Citizens heeds the lessons of history by taking politics out of public utilities and keeping these vital assets under local, public ownership, to be managed by professional utility operators only for community benefit.

Q. Veolia and United are experienced managers of water and wastewater utilities around the country and the world. Are Citizens personnel qualified to run water and wastewater systems?

A. No company in Central Indiana has as much diversified utility operating experience as Citizens. Its senior management team has a combined 150 years of utility leadership experience here in Central Indiana. Also, no other utility company in Central Indiana has a longer track record of operational excellence and customer satisfaction as Citizens. Citizens operates the nation's second-largest district energy system that transports steam and chilled water to buildings throughout the Downtown area. The company also has operated a wastewater treatment plant at its former Indianapolis Coke Plant on Prospect Street, so Citizens personnel are not strangers to the work at hand. Citizens would retain key expertise at all of the utilities to ensure service excellence.

Q. How will the utilities be combined?

A. Please keep in mind that the memorandum of understanding announcement is just the first step in the process. Before the water and wastewater utilities are combined, the agreement must be approved by the Board of Waterworks, the Board of Public Works, City-County Council and the Indiana Utility Regulatory Commission. The transfer is expected to close by the end of the calendar year. In the months leading to the close, the City, Citizens, Veolia Water and United Water will work together to define the most effective ways to combine the businesses. All are committed to ensuring that, through this transition period, customers see no deterioration in service quality.

Q. What will Veolia and United's role be in the new combined utility operations?

A. Citizens expects that Veolia and United will continue to have significant roles in the operations of the water and wastewater utilities. Currently, Citizens is working closely with Veolia and United as it plans the future operations of the utilities with a focus on capturing an estimated $40 million in annual operating synergies that have been identified.

Q. Veolia and United have strong records for hiring minority and women-owned business partners. Is Citizens committed to supplier/vendor diversity?

A. As a major purchaser of goods and services, Citizens is committed to increasing opportunities for local small businesses including minority- and women-owned suppliers. The public charitable trust endeavors to build long-lasting relationships with our suppliers, as they are important components of our success.

Q. Charitable organizations have expressed concern that support they currently receive from Veolia and United Water will be reduced or eliminated should the water and wastewater systems be transferred to Citizens. Should local nonprofit organizations have this concern?

A. While it is too early to determine the contributions budget of the combined utilities, Citizens will maintain a substantial community investment program. In just the past 10 years, Citizens has put nearly $50 million of revenue from its non-utility companies back into the community to fund gas customer rate reductions, low-income energy assistance, home weatherization programs, community redevelopment projects and donations to a wide range of non-profit organizations.

MEMORANDUM OF UNDERSTANDING

BETWEEN THE

CITY OF INDIANAPOLIS

OFFICE OF MAYOR GREGORY A. BALLARD

AND THE

DEPARTMENT OF PUBLIC UTILITIES OF THE CITY OF INDIANAPOLIS,

AS TRUSTEE OF A PUBLIC CHARITABLE TRUST

D/B/A CITIZENS ENERGY GROUP

REGARDING THE PROPOSED TRANSFER

AND ACQUISITION OF WATER AND WASTEWATER SYSTEMS

This Memorandum of Understanding for Consolidation of Municipal Utilities (the "MOU") is entered into by the City of Indianapolis ("City"), Office of Mayor Gregory A. Ballard, and Citizens Energy Group to memorialize our mutual understanding, after considerable study, analysis and discussions, concerning the proposed acquisition of the City of Indianapolis' Water system (the "Water System") and Wastewater system (the "Wastewater System"; together with the Water System, collectively referred to as the "Systems") by Citizens Energy Group and/or its affiliate designee (collectively, "Citizens") subject to the terms and conditions outlined in this MOU (the "Proposed Acquisition"). This MOU is not intended to contain all of the detailed terms and conditions of the Proposed Acquisition and is not legally binding upon the parties (except as set forth in Paragraph 17). Consummation of the Proposed Acquisition is subject to certain closing conditions and the completion of business, financial, legal and similar due diligence with results satisfactory to Citizens in its sole discretion.

Preliminarily, and in an effort to provide a framework for this MOU and the Proposed Acquisition, summarized below are what the City has informed Citizens to be the City's principal objectives and the benefits of Citizens as the City's preferred partner as we work towards consummation of the Proposed Acquisition:

- The City, like many large cities today, faces massive funding challenges related to maintaining its basic infrastructure. It is estimated that the City needs over $4 billion for necessary improvements to the City's Systems and $1.5 billion for other basic infrastructure projects such as roads, bridges, sidewalks and parks. Included in the estimated improvements needed to the City's Systems is between $1.4 billion and $1.7 billion improvements mandated by the U.S. Environmental Protection Agency ("EPA") pursuant to the 2006 consent decree entered into by the City and the EPA (the "Consent Decree"). If the City does not take the action contemplated herein, to cover the costs of all of these necessary improvements, it is projected that Water rates would need to increase over 100% and Wastewater

rates would need to increase over 400% respectively by 2025 in order to cover the costs of these improvements;

- The City currently ranks as one of the most affordable major metropolitan areas in the country. The City cannot solely rely on increased tax revenues from its citizens or higher fees from ratepayers to fund the necessary infrastructure upgrades if it is to remain an affordable place to live, work, and visit;

- Facing this significant challenge of funding necessary infrastructure upgrades, the City has considered and studied various creative structures, partners and alternatives. As part of its review, the City conducted internal investigations, hired third party consultants to assist in analyzing various structures and options and issued a Request for Expression of Interest soliciting ideas from companies around the world on how to address the City's infrastructure needs while also meeting or exceeding applicable environmental standards and mitigating increases to water and wastewater rates;

- After thorough analysis of various options, structures and partners, the City believes the Proposed Acquisition of the Systems by Citizens, a public charitable trust, the trustee of which is the City's Department of Public Utilities, will provide the City with much needed capital to fund necessary infrastructure improvements, result in rate mitigation for the Systems and continue to provide the City's citizens with excellent water and wastewater services;

- It is anticipated that the combined operation by Citizens of the Central Indiana water, wastewater, gas, steam and chilled water utility systems will result in operating and capital project synergies of up to $40 million annually for the benefit of the City, its residents and customers of both the Water and Wastewater Systems, thus resulting in lower rates for all utilities than would otherwise result in the absence of the Proposed Acquisition;

- Citizens' exemption from federal and state income taxes, its ability to assume or replace and to issue tax-exempt debt and its regulation as a municipal utility without a required return to equity investors will result in substantial long-term benefits to the City and to customers (that is, current and future Citizens' customers);

- No other group or business organization has as much experience owning, managing and operating utilities in the City of Indianapolis and in Central Indiana as Citizens;

- Citizens' unique public charitable trust structure will ensure local control over critical Central Indiana utilities continues with the same invulnerability to takeover by distant companies and investors that has protected the community's utilities entrusted to Citizens for more than 100 years. It will also ensure local reinvestment and community-based decision making;

- Selling or leasing the Water and Wastewater Systems to a private investor owned company could result in significantly higher water and sewer rates than anticipated under the Proposed Acquisition due to higher taxes, borrowing costs and the need to pay investors a higher rate of return; and

- The Proposed Acquisition contemplates an increase in the annual payment in lieu of property taxes ("PILOT") as a result of significant capital spending associated with the Wastewater System. The City will monetize the increase in PILOT payments in the form of a bond issue with anticipated proceeds of $140 million, with such proceeds used by the City to fund necessary infrastructure improvements. The Proposed Acquisition, as further provided in this MOU, contemplates Citizens' assumption of the obligation to pay PILOTs.

With this background, the following are the principal terms and conditions of the Proposed Acquisition:

1. Acquired Assets. Citizens proposes to acquire all of the assets of the City's Systems (other than the Excluded Assets as defined below) including, without limitation: (i) all real and personal property owned, licensed or leased by the City's Department of Waterworks, or by the City, its Department of Public Works, or any of its other departments or affiliates and used, necessary or important in the operation of one or both of the Systems, except as otherwise excluded by mutual agreement of the City and Citizens, whether or not any such assets have any value for accounting purposes or are carried or reflected on the books or financial statements of the City or any of its departments or affiliates, (ii) cash and cash equivalents of the City's Department of Waterworks, or of the City, its Department of Public Works, or any of its other departments or affiliates representing the unexpended bond proceeds and other amounts in the capital improvement, bond and/or construction fund balances and reserves for the Systems (such unexpended bond proceeds and other amounts referred to herein as the "Construction Funds"), (iii) all contracts, licenses and leases related to the Systems to which the City or any of its departments, affiliates or managers is a party, except those contracts, licenses and leases excluded by mutual agreement of the City and Citizens; and (iv) any intellectual property owned or licensed by the City or any of its departments, affiliates or managers pertaining to the Systems or any portion thereof, or which is otherwise used in or necessary to the operation of the Systems in at least the same manner as they are currently operated, except those excluded by mutual agreement of the City and Citizens, (collectively, the "Acquired Assets"). All the Acquired Assets will be transferred to Citizens free and clear of all liens, claims and other encumbrances in each case except for the Assumed Liabilities and as otherwise set forth in the Definitive Acquisition Agreement (as defined below). The parties agree that the City and its inhabitants would be protected against further sale or disposition of the Systems by their placement by Citizens into public charitable trust to be held and operated in substantially the same manner as the utility systems currently held by Citizens' existing public charitable trust.

2. Excluded Assets. The Acquired Assets shall not include certain assets as mutually agreed to by the City and Citizens in writing, including but not limited to, the City's stormwater system and the cash balance of the Wastewater System's Sanitation General Fund (also known as the Sanitation Liquid Waste Fund) (the "Wastewater General Fund"), which as of February 1, 2010, had a balance of approximately $65 million, such assets, subject to the escrow

to be included in the Cost-Sharing Arrangement (defined below), to remain the property of the City (collectively, the "Excluded Assets"). In addition, Citizens shall undertake a review of the real property and building housing the Water System's headquarters ("HQ Property") and will make a determination prior to closing of the Proposed Acquisition as to whether the HQ Property is integral, necessary or important to the operations of the Water System or to achieve the synergies sought by the Proposed Acquisition. In the event that prior to closing of the transactions contemplated by this MOU, Citizens determines that the HQ Property is not integral, necessary or important to the operations of the Water System or to achievement of synergies, the HQ Property shall be excluded from the Proposed Acquisition and shall be an Excluded Asset on such terms as the parties shall mutually agree, provided that Citizens shall be given the right to lease the HQ Property for a period of up to two years (with an option for a third year) with rental due thereon at a mutually agreed rental amount. To the extent that in the course of due diligence Citizens determines that the Wastewater System is carrying on its books real estate that was not funded with Assumed Debt Obligations (defined below) and the same would not likely be used, necessary or important to the operations of that System or to achieve the synergies sought by the Proposed Acquisition, Citizens in good faith will discuss mutually agreeable arrangements for the use of such real estate for the City's economic development objectives.

3. Acquisition Price. The consideration to be paid by Citizens to the City for the Acquired Assets (the "Acquisition Price") shall be $262.6 million, $170.6 million of which shall be paid in cash at closing of the Proposed Acquisition, and $92.0 million of which shall be payable on October 1, 2011, together with the assumption of the Accepted Debt, GO Debt, Non-SRF Revenue Debt, Pending Debt and Future Debt as defined and discussed below (collectively "Assumed Debt Obligations"):

(a) The assumption of interest-bearing and other indebtedness related to the Department of Waterworks debt and the Sanitary District debt issued to the Indiana State Revolving Fund ("SRF") amounting to $1,349,749,250, as of February 1, 2010, as further summarized on Exhibit A (the "Accepted Debt"). This assumes receipt by Citizens of the various funds, accounts and contracts established under the indenture for such bonds (e.g., debt service reserve fund, debt service funds, construction funds, insurance policies) held by the City, or in the case of such funds, accounts and contracts held by SRF, an acknowledgement that the same are held for the benefit of Citizens in respect of the Accepted Debt;

(b) Semiannual payments to the City in an amount equal to the interest and remaining principal obligations of the City and at such times as maybe required under the City's general obligation bonds associated with the Sanitary District ("GO Debt") with a total principal outstanding of $53,608,000 as of February 1, 2010, are summarized on Exhibit B;

(c) An escrow created to defease the outstanding amount of non-SRF revenue bonds of the Sanitary District ("Non-SRF Revenue Debt") in the amount of $39,290,000, as of February 1, 2010, are summarized on Exhibit C;

(d) Certain pending debt ("Pending Debt") that the City has informed Citizens that it anticipates obtaining to address the downgrading of the credit rating of the City's

provider of surety bonds backing Wastewater System revenue debt, which would either be in the form of a credit enhancement, or if unavailable, the issuance of bonds in the approximate amount of $40,000,000 to fund the debt service reserves with respect to certain Accepted Debt for the Wastewater System. The City agrees to consult with Citizens with respect to the Pending Debt and the investment of any bond proceeds. Whichever solution the City implements to address the downgrade, the parties will determine in good faith an appropriate Acquisition Price reduction to reflect the increased financial costs due the downgrade; and

(e) Certain future debt ("Future Debt") to the extent that the City anticipates the need for any other bond issues related to the Systems between the signing of this MOU and the closing of the Proposed Acquisition, which debt shall not exceed the amounts set forth in Exhibit D, without the express prior written consent of Citizens on such terms as it determines to be appropriate. To the extent any Future Debt is to be issued, the City will so notify Citizens at least 60 days in advance thereof, and the City and Citizens shall work cooperatively with respect to the terms of the issuance of such debt.

Any redemptions, refundings, or change in the amount of debt outstanding described above will reduce the Assumed Debt Obligations that Citizens will be assuming at closing.

The City has projected that given the significant capital spending associated with the Wastewater System, the annual payment in lieu of property taxes will increase in accordance with law. Accordingly, the City intends to issue debt secured by the PILOT ("PILOT Bonds") prior to the time a definitive agreement may be reached by the parties. Because certainty as to the amount of the annual PILOT is necessary for the issuance of investment grade PILOT Bonds, the City, by ordinance, intends to fix the amount of the PILOT through the year 2039 in accordance with the PILOT amounts listed on Exhibit E. Upon acquisition of the Wastewater System the Citizens entity that owns and operates this System shall assume the obligation to pay these amounts as PILOTs through the year 2039. Thereafter, Citizens shall pay annually a PILOT equal to that amount determined in accordance with IND. CODE § 36-3-2-10 or its successor.

To the extent Citizens assumes and receives assignment of certain third party agreements, the Acquisition Price shall be subject to a downward adjustment of up to $15 million based on a mutually agreed cost-sharing, indemnity and escrow arrangement to be included in the Definitive Acquisition Agreement (the "Cost-Sharing Arrangement").

4. Assumed Liabilities. Citizens will assume only the liabilities of the City related to the Systems and the Acquired Assets (other than the Excluded Liabilities as defined below), including performance obligations under all assumed contracts and the Assumed Debt Obligations, except as otherwise agreed to between the City and Citizens and included in the Definitive Acquisition Agreement (defined in Paragraph 5 below) (collectively, the "Assumed Liabilities"). In any event, it is the intent of the parties that Assumed Liabilities will not include any liabilities or obligations with respect to any Excluded Assets or certain costs related to third party agreements that are the subject of the Cost-Sharing Agreement, other than as expressly

provided in the Cost-Sharing Arrangement (collectively, the "Excluded Liabilities"). Notwithstanding the terms of the Consent Decree indicating that a transfer or sale of Wastewater System assets will not relieve the City from its obligations under the Consent Decree and subject to the terms and conditions to be included in the Definitive Acquisition Agreement, the City's post-closing covenants set forth in the Consent Decree regarding the City's Combined Sewer Overflow project will be assumed by the Citizens entity that operates and manages the Wastewater System as part of the Proposed Acquisition consistent with and subordinate to the terms of the bond financings undertaken and assumed to complete this transaction, and accordingly Citizens will cause the Citizens entity that operates and manages the Wastewater System to so assume, and to indemnify and hold the City harmless therefrom, all as to be more particularly set forth in the mutually agreed indemnification provisions of the Definitive Acquisition Agreement. Included, by way of example only, will be the obligations related to the CSO Control Measures included in the City's Long-Term Control Plan (as approved by federal and state regulatory authorities and as may be amended or modified from time to time). The City has committed to the completion of the Septic Tank Elimination Projects listed on Exhibit F ("STEP"). Citizens acknowledges that STEP must be completed as part of the acquisition of the Wastewater System contemplated by this MOU without reduction in the Acquisition Price provided for herein; it being understood that regardless of the construction schedule in no event would Citizens be required to make payment for STEP financing or STEP improvements until 2015. The details of the STEP financing shall be addressed in the Definitive Acquisition Agreement to the mutual satisfaction of the parties following due diligence. Citizens acknowledges that the City is currently financing 2010 STEP improvements through a short term financing facility. Citizens and the City shall work together in the planning and scheduling for construction of the STEP to ensure that these projects are completed in the most efficient manner, giving due consideration to the cost of construction, financing costs, operating costs and the Wastewater System in its entirety.

5. Definitive Agreement. Consummation of the Proposed Acquisition is subject to the preparation, authorization, execution and delivery of a definitive acquisition agreement and other related documents by and between the City and Citizens (the "Definitive Acquisition Agreement") which are acceptable to both parties. Upon the acceptance of this MOU by the City, Citizens and the City will promptly undertake negotiations of the terms of the Definitive Acquisition Agreement. Citizens and its counsel shall be responsible for preparing the initial draft of the Definitive Acquisition Agreement. The Definitive Acquisition Agreement will be in a form customary for transactions of similar scope and significance to the parties and will include, in addition to those matters specifically set forth in this MOU, customary representations, warranties, indemnities, covenants, adjustments to purchase price, customary conditions of closing and other customary matters. The parties intend to proceed toward consummation of the Proposed Acquisition in good faith.

6. Conditions Precedent Related to Water System. In addition to the general conditions to closing set forth in Paragraph 8, the Proposed Acquisition will be subject to the following conditions precedent related to the Water System:

(a) Resolution of the City's permanent rate case currently pending before the Indiana Utility Regulatory Commission ("IURC") as cause number 43645 in a manner acceptable to Citizens;

(b) Assignment of the existing management agreement with Veolia upon terms reasonably acceptable to the City and Citizens;

(c) Citizens' confirmation that any utility property of the Water System purchased by Citizens will be subject to Indiana's property tax laws and will not be subject to any payments in lieu of any such property taxes; and

(d) IURC approval of Citizens' application (submitted at Citizens' expense) to include as a revenue requirement in future water rates any debt service assumed or incurred in order to complete the Proposed Acquisition, and IURC approval of Citizens' projected revenue requirements in terms of water rates at closing and terms and conditions of service reasonably acceptable to the City and Citizens. Such rates shall remain in effect for a period of at least two years after the closing of the Proposed Acquisition, subject to unforeseen circumstances and developments, unanticipated regulatory compliance costs and such other exceptions as shall be mutually agreed in the Definitive Acquisition Agreement.

7. Conditions Precedent Related to Wastewater System. In addition to the conditions to closing set forth in Paragraph 8, the Proposed Acquisition will be subject to the following conditions precedent related to the Wastewater System:

(a) Approval by SRF of (i) Citizens' assumption or replacement/discharge of any Wastewater System interest-bearing debt issued by the City and payable to SRF with the same payment amounts and dates and redemption features as currently apply to all such applicable debt, and (ii) the transfer to Citizens or for its benefit of related funds under the indenture(s) being held by the City or SRF (e.g., debt service funds, debt service reserve funds, construction funds, policies, etc.).

(b) Assignment of the existing management agreement with United Water upon terms reasonably acceptable to the City and Citizens;

(c) The receipt of an Internal Revenue Service determination that the Citizens' non-profit acquisition designee is a tax-exempt instrumentality of Citizens Energy Group exempt from taxation under Section 115 of the Internal Revenue Code;

(d) The receipt of any required EPA and Indiana Department of Environmental Management approvals, including without limitation those related to the Combined Sewer Overflow Consent Decree and any NPDES permits;

(e) An acceptable indemnification from the City and its relevant departments in favor of the Citizens related to certain of the City's pre-closing combined sewer overflow liabilities;

(f) Within the current City approved rate schedule, approval by the City-County Council of a mechanism acceptable to Citizens that confirms realization of billed revenues;

(g) IURC approval of Citizens' application (prepared and submitted at Citizens' expense) (i) to have the IURC assert rate approval jurisdiction over the rates for the Wastewater System, (ii) to include as a revenue requirement in future wastewater rates, in addition to all other recoverable costs, any debt service assumed or incurred in order to complete the Proposed Acquisition and any PILOTS payable with respect to the Wastewater System assets; and (iii) to the extent necessary, the assumption of or issuance of debt in connection with the Proposed Acquisition;

(h) IURC adoption and approval of the City's then current approved wastewater rate plan as approved by the City-County Council (including the mechanism referenced in (f) above), which rates shall increase no more than 10.75% annually through 2013, subject to unforeseen circumstances and developments, unanticipated regulatory compliance costs and such other exceptions as shall be mutually agreed in the Definitive Acquisition Agreement; and

(i) The City has represented that there are approximately $127 million of Construction Fund proceeds available to fund continuing Wastewater System projects identified to Citizens in the CIP Plan (defined below) upon which Citizens has relied for purposes of the Proposed Acquisition. The City shall have only expended the Construction Fund proceeds consistent with the CIP Plan, except for any expenditures for STEP in accordance with this MOU, and further shall have spent the Construction Fund proceeds, to the extent permissible with the SRF, before any Future Debt or Pending Debt is issued and the proceeds thereof expended.

8. General Conditions Precedent. In addition to the conditions precedent set forth in Paragraphs 6 and 7, the Proposed Acquisition will be subject to the following general conditions precedent to closing:

(a) Approval of the Proposed Acquisition by the Board of Directors of Citizens followed or accompanied by any necessary or appropriate procedural and other approvals by the Citizens' Board of Trustees; provided, however, that these approvals shall be obtained in advance of the execution of the Definitive Acquisition Agreement;

(b) Approval of the Proposed Acquisition by the Board of Waterworks, Board of Public Works, the Mayor of the City of Indianapolis, and by the City-County Council; provided, however, that these approvals shall be obtained in advance of the execution of the Definitive Acquisition Agreement;

(c) Receipt of all material, non-governmental third party consents;

(d) The execution by the parties of a mutually acceptable Transition Services Agreements pertaining to the Systems;

(e) Completion of financing so that Citizens may finance this transaction and assume or replace all existing interest-bearing debt related to the Systems and

summarized on Exhibits A, B, C and D on terms reasonably acceptable to Citizens;

(f) Approval of the Proposed Acquisition by the IURC, including but not limited to Citizens' proposed allocation of recognized operating and/or capital expenditure savings among the affected utilities;

(g) Any other approvals necessary or advisable to consummate the Proposed Acquisition;

(h) Confirmation to Citizens' satisfaction with respect to the balances of the Systems' working capital (including the Wastewater General Fund) and Construction Funds immediately before closing in amounts in terms of consistency with historical levels, past practice and projections provided to Citizens upon which this MOU was based;

(i) Neither the City nor Citizens shall be subject to any injunction, preliminary restraining order or other similar decree of a court of competent jurisdiction prohibiting the consummation of the Proposed Acquisition;

(j) Customary legal opinions, closing instruments, certificates and other documentation shall have been executed and delivered; and

(k) Citizens shall have completed its business, financial, legal, regulatory and similar due diligence to Citizens' satisfaction by the time Citizens and the City execute the Definitive Acquisition Agreement but in no event, later than the expiration of a period of four (4) months from the execution date by the City of this MOU (the "Outside Date"), and Citizens shall have discovered no facts or conditions which constitute, or could reasonably be expected to result in, a material adverse change in the properties, assets, liabilities, operations, condition (financial or otherwise) or results of operations of the Water or Wastewater Systems.

9. Pre-Closing Covenants. Except as the parties may otherwise mutually agree or as may be otherwise contemplated by this MOU, the City shall conduct (and shall to the extent reasonably practicable and as permissible under the City's management contracts with Veolia and United Water cause its managers Veolia and United Water to conduct) the Water and Wastewater Systems only in the ordinary course of business in accordance with past practices and procedures and use (and shall to the fullest extent of its rights under the City's management contracts with Veolia and United cause its managers Veolia and United Water to use) commercially reasonable efforts to maintain the business and assets of the Water and Wastewater Systems and the City shall not (and shall to the fullest extent of its rights under the City's management contracts with Veolia and United cause its managers Veolia and United Water to not) except as otherwise contemplated by this MOU, without the prior written notice to Citizens:

(a) dispose of or incur liabilities with respect to, pledge, mortgage, grant a security interest in or encumber any Acquired Assets;

(b) increase the base compensation of any employee of the Systems (other than in the ordinary course of business consistent with past practices) or grant any unusual or extraordinary bonuses, benefits or other forms of direct or indirect compensation to any employee, officer, director or consultant, except in amounts consistent with past practices, by formulas or otherwise;

(c) enter into, amend or modify any employment or severance agreement or increase, terminate, amend or otherwise modify in any material respect any plan or arrangement for the benefit of employees of the Systems;

(d) increase any liabilities or obligations of the Systems other than in the ordinary course of business consistent with past practices and the expense projections provided to Citizens, including without limitation any capital expenditure programs;

(e) use the Construction Funds other than in accordance with the revised capital investment plan for 2010, as provided in writing to Citizens prior to execution of this MOU and acknowledged by Citizens as the plan on which this MOU has been based (the "CIP Plan"); or

(f) modify or amend the existing Veolia or United Water management agreements without Citizens' approval.

The City shall cooperate (and shall to the fullest extent of its rights cause its managers Veolia and United Water to cooperate) with the Citizens' due diligence procedures and shall provide the Citizens and its representatives with reasonable access to its books and records and any facilities or properties upon request during normal business hours.

10. Employment and Contract Matters. The parties have discussed the issues related to employee and union relations and have agreed to address those matters during the negotiations of the Proposed Acquisition and provide for their resolution in the Definitive Acquisition Agreement. However, it is noteworthy due to the anticipated significant capital expenditure programs, particularly those related to the sanitary sewer system and associated consent decree, significant employment growth is expected, either directly with Citizens or indirectly with Citizens' partners or contractors, including employment opportunities for minority and women-owned business enterprises. Consistent with its stated policies and initiatives, Citizens will seek to contract with Marion County based businesses and minority, women and veteran owned businesses in order to spur and maximize economic growth and job creation with local, minority, women and veteran owned businesses.

11. Public Announcements. Subject to applicable law, any public announcement relating to the Proposed Acquisition will be mutually agreed upon and jointly made by the parties.

12. Exclusivity. Subject to Paragraph 17, between the date hereof and termination in accordance with Paragraph 17, Citizens shall have the exclusive right to negotiate the Proposed Acquisition, conduct the permitted due diligence, and execute the Definitive Acquisition Agreement. Neither the City nor any of its departments shall, through any employee,

representative, agent or otherwise, directly or indirectly, (a) solicit, initiate or encourage submission of any inquiry, proposal or offer from any Person (as defined below) relating to any transaction involving any sale or transfer of any of the Acquired Assets or the Systems, (b) enter into, participate in or continue any discussions or negotiations (except with Citizens) regarding, or furnish any information to or cooperate with any Person (other than Citizens) with respect to, any transaction involving any of the Acquired Assets or the Systems, or (c) enter into any agreement (except with Citizens) relating in any manner to any transaction involving any sale or transfer of any of the Acquired Assets or the Systems. For purposes of this paragraph, the term "Person" shall mean an individual, corporation, partnership, limited liability company, sole proprietorship, joint venture, association, trust or any other entity.

13. Brokers. Each party will be responsible for any fees or expenses of any financial advisor, broker or finder retained by such party payable upon consummation of the Proposed Acquisition.

14. Transaction Expenses. Except as otherwise provided in this Paragraph 14, Citizens and the City shall be responsible for and bear all of their respective costs and expenses incurred in connection with the Proposed Acquisition, including, without limitation, any legal, accounting or other representative or advisor costs and expenses; provided, however, any party who breaches any legally binding provisions hereof shall be obligated to save harmless, indemnify and reimburse the other parties for all costs and expenses incurred by such other parties in connection with the enforcement hereof, including reasonable attorneys' fees and court costs, and in the event of a breach by the City of Paragraph 12 above, all costs and expenses incurred by Citizens in connection herewith and the negotiation and completion (or efforts to complete) the Proposed Acquisition. The City shall be responsible for all costs related to premiums and other fees and expenses for ALTA form of title policies, including routine endorsements, and one-half of the cost of surveys sufficient as a condition to remove general exceptions to any such title policies for all real property being transferred to Citizens. Citizens shall be responsible for such other endorsements as it shall determine are necessary or appropriate, and one-half of the cost of such surveys. Should the Definitive Acquisition Agreement not be executed by the City by the Outside Date through no fault of Citizens, or should a condition precedent to the Proposed Acquisition not be met through no fault of either party and Citizens is nonetheless ready, willing and able to grant an extension to the Outside Date but the City declines to do so, and thereafter the City executes a definitive agreement or agreements for the sale, transfer, or long-term lease of the Systems or completes any transaction(s) similar to the Proposed Acquisition described herein or takes definitive action to consolidate the Water and Wastewater Systems within twelve (12) months of the later of (i) the receipt by Citizens of a notice by the City to terminate this MOU in accordance with Paragraph 17 or (ii) the Outside Date; and the economic terms are more favorable to the City than those of this MOU, then the City shall purchase, or cause the acquirer(s) of the Systems to purchase, from Citizens those studies, analyses, reports and data compilations relating to the Systems prepared or obtained by Citizens, at Citizens' costs thereof, within ninety (90) days from the date the City executes a definitive agreement for the sale, transfer, or long-term lease of the Systems or any transaction similar to the Proposed Acquisition or takes definitive action to consolidate the Water and Wastewater Systems.

15. Confidentiality. Except as and to the extent required by law (including but not limited to the Indiana access to public record law at IC §5-14-3) or pursuant to an order of a court of competent jurisdiction, no party hereto shall, directly or indirectly, disclose or use (and no party shall permit its representatives to disclose or use) any Confidential Information (as defined below) with respect to any other party furnished, or to be furnished, by such other party hereto or its shareholders, directors, officers, agents, or representatives to any other party hereto or its employees, directors, officers, agents or representatives in connection herewith at any time or in any manner other than in connection with the completion of the Proposed Acquisition and related transactions. For purposes of this paragraph, the term "Confidential Information" means any information about the Citizens, the City or the Systems related to the Proposed Acquisition; provided, however, that such term does not include information which the receiving party can demonstrate (a) is generally available to or known by the public other than as a result of improper disclosure by the receiving party, (b) is obtained by the receiving party from a source other than the disclosing party, provided that such source was not bound by a duty of confidentiality to the disclosing party with respect to such information, or (c) is legally in the public domain.

16. Governing Law. This MOU will be governed by Indiana law, without regard to principles of conflicts of law.

17. Binding Effect; Termination. The parties intend to negotiate the terms and conditions of the Definitive Acquisition Agreement until this MOU is terminated in accordance with this paragraph. Except for numbered Paragraphs 11, 12, 13, 14, 15, 16, this 17, 18, 19 and 20, which are intended to be binding, the parties agree that this MOU is not intended to be a binding agreement between the parties but merely an expression of their intent with regard to the transactions described herein, and each party covenants never to contend to the contrary. If a Definitive Acquisition Agreement with respect to the Proposed Acquisition is not signed on or before the Outside Date, either party, upon written notice to the other, may terminate this MOU and (except with respect to Paragraphs 11, 13, 14, 15, 16, this 17, 18, 19 and 20) the parties shall no longer have any rights or obligations with respect to this MOU.

18. Notices. All notices and other communications hereunder shall be in writing and shall be furnished by hand delivery of registered or certified mail to the parties at the addresses set forth below. Any such notice shall be duly given upon the date it is delivered to the addresses shown below, addressed as follows:

If to Citizens, to:

Citizens Energy Group
2020 N. Meridian Street
Indianapolis, IN 46202

Attention: Carey Lykins, President and Chief Executive Officer

If to the City, to:

City of Indianapolis.

Office of the Mayor
2501 City-County Building
200 East Washington Street

Attention: Michael Huber, Director of Enterprise Development

19. Severability. If any term, provision, covenant or restriction contained in this MOU that is intended to be binding and enforceable is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions contained in this MOU shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

20. Entire Agreement. This MOU represents the entire agreement among the parties hereto with respect to the subject matter hereof and it supersedes all prior or contemporaneous written or oral agreements or understandings of any kind among the parties hereto with respect to the subject matter hereof.

[Remainder of Page Intentionally Blank]

IN WITNESS WHEREOF, the parties have hereunto affixed their signatures on the dates indicated below:

CITY OF INDIANAPOLIS

By: _____ Date: 3-9-10

Gregory A. Ballard, Mayor

DEPARTMENT OF PUBLIC UTILITIES OF THE CITY OF INDIANAPOLIS, AS TRUSTEE OF A PUBLIC CHARITABLE TRUST, D/B/A CITIZENS ENERGY GROUP

By: _____ Date: 3-9-10

Carey Lykins, President and Chief Executive Officer

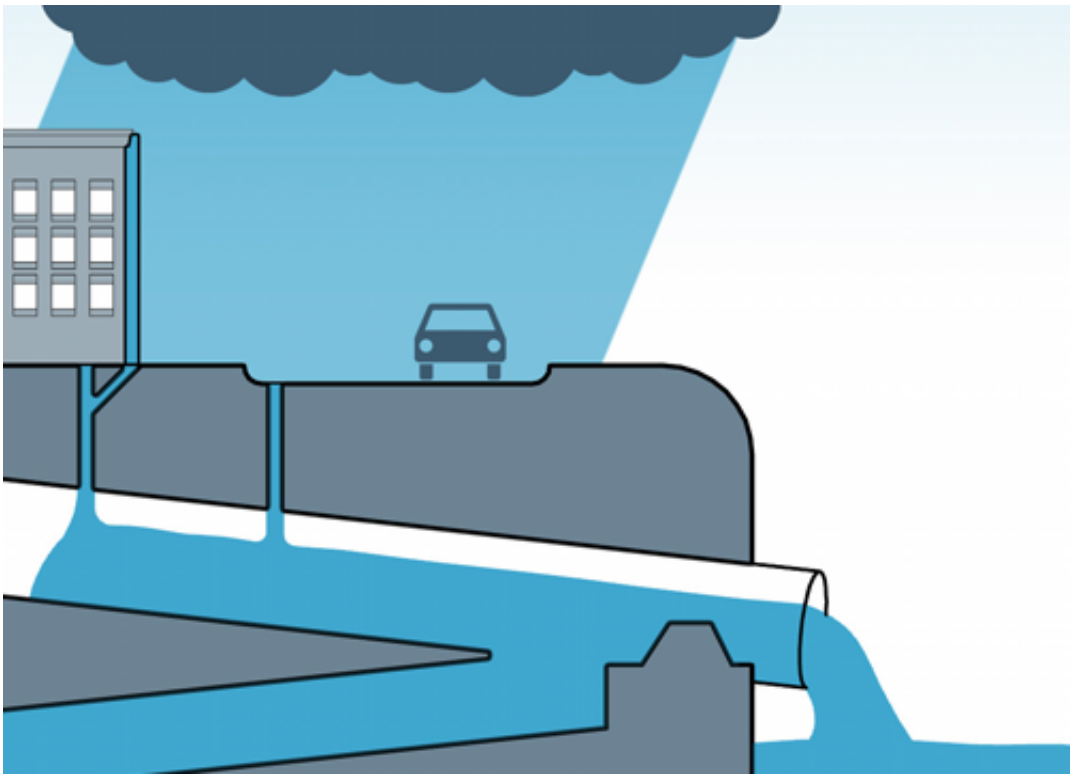
APPROVED AS TO FORM AND LEGALITY:

By: _____ Date: 3/9/10

Samatha Karn, Corporation Counsel, City of Indianapolis

16th October 2014

Indianapolis Digs Deep to Fix its Enormous Sewer Overflow Problem



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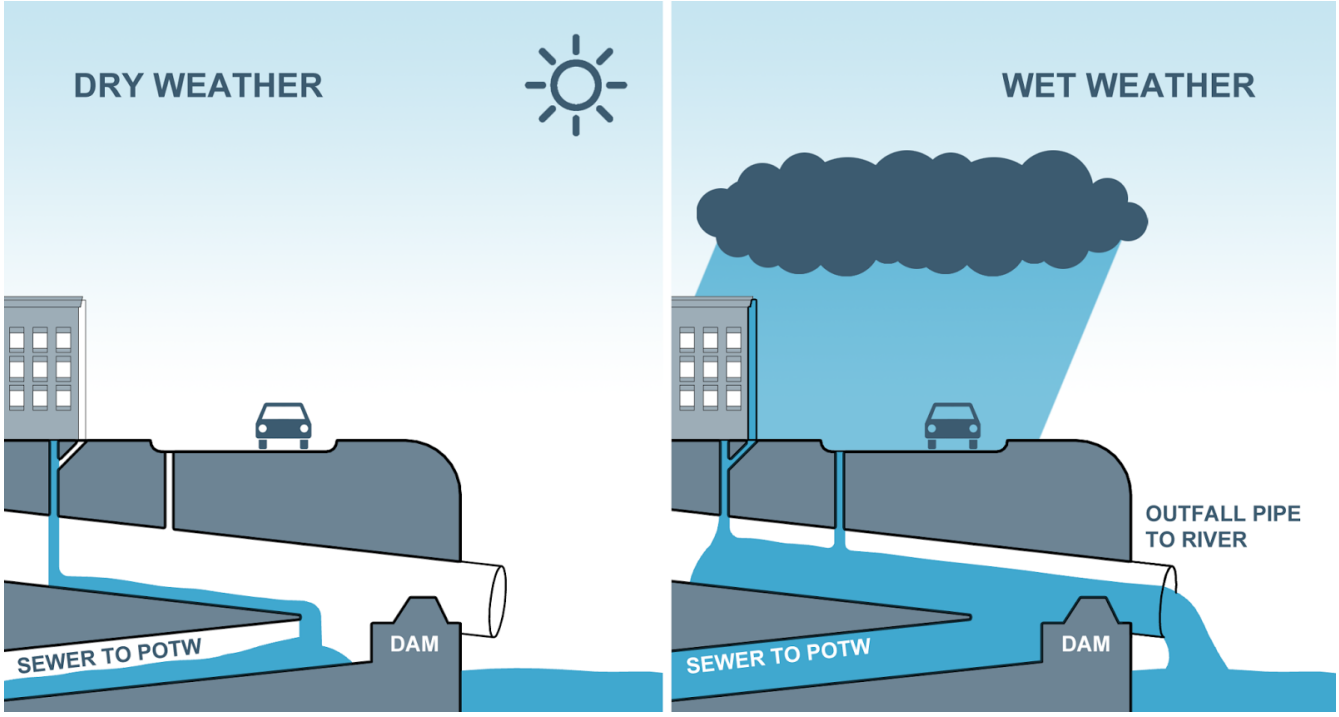
The Problem of Combined Sewer Overflows

Combined sewer overflows [http://water.epa.gov/polwaste/npdes/cso/] (CSO) are a method for conveying both stormwater and wastewater (sewage) in one combined network of pipes. Historically, these systems were built in hundreds of communities across the United States before indoor plumbing became commonplace. They worked well for several decades. But as urban populations grew, the sewage/stormwater conveyance infrastructure had a difficult time keeping up. Today, it is fairly common for the combined sewer and stormwater runoff to "overflow" the conveyance system, causing excess quantities to dump into to a body of water, typically a river.

Such an overflow event is bad news. The water pouring into the river is part stormwater runoff - which, when coming off of a paved road is basically a chemical spill - and part untreated sewage, which can contain bacteria, pathogens, and traces of prescription medication, among other contaminants.

According to the U.S. Environmental Protection Agency [http://www.epa.gov/] (EPA), Indianapolis experiences between 45 and 80 combined sewer overflow events per year, accounting for approximately 7.8 billion gallons of overflow per year into the White River and its tributaries.



[http://4.bp.blogspot.com/-DDNM9KLCyXU/VD81Y2uUxFI/AAAAAAAABcI/2XPJXnacJdo/s1600/CSO%2BDiagram.png]
Combined Sewer Overflow (CSO): During dry weather and minor rain events, the system conveys sewage and stormwater to the publicly owned treatment works (POTW). During major rain events, the combination of sewage and stormwater surpasses the system's capacity and an overflow event occurs.
Image property of Daniel Overbey.

U.S. and State of Indiana sue Indianapolis for Clean Water Act violations

A decade ago, the EPA and the Indiana Department of Environmental Management [http://www.in.gov/idem/] (IDEM) sought civil penalties and injunction relief [http://www2.epa.gov/sites/production/files/2013-09/documents/indy0610-cd.pdf] from the City of Indianapolis for Clean Water Act [http://www2.epa.gov/laws-regulations/summary-clean-water-act] (CWA) violations involving discharges of untreated sewage form the City's sewage collection system, including combined sewer overflows to waters of the United States - namely, the White River and its tributaries.

In 2006, the City of Indianapolis entered into a Consent Decree [http://www2.epa.gov/sites/production/files/2013-09/documents/indy0610-cd.pdf] (i.e., settlement with no admission of guilt), which required the City, among other things, to construct 31 CSO Control Measures and perform other activities. Some of the measures have been amended [http://www2.epa.gov/sites/production/files/documents/cityofindianapolis-2ndamended-cd.pdf] over time.

At the heart of the Consent Decree is the Long Term Control Plan [http://www.citizensenergygroup.com/Our-Company/Our-Projects/Long-Term-Control-Plan] (LTCP), which should reduce the sewage overflow into local waterways by 7.2 billion gallons per year by 2025.

The Consent Decree requires capture and treatment of 97 percent of the sewage overflows in the Fall Creek watershed and 95 percent in the White River watershed. When the LTCP is completed, overflows will only be allowed to occur during two storms per year on Fall Creek and four storms per year on White River and other waterways.

Not just an Indy problem

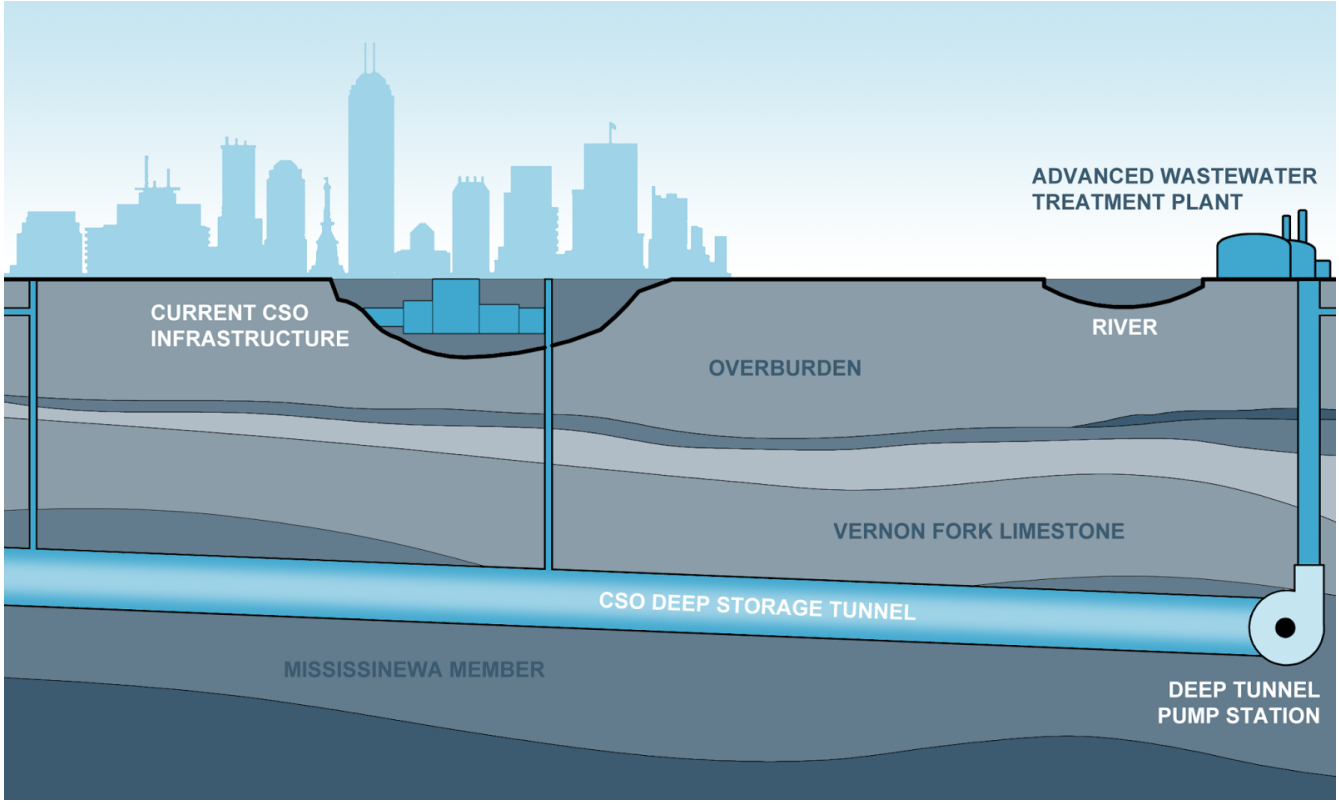
According to the EPA, combined sewer overflow systems exist in roughly 770 communities [http://www.compugas.net/#!cso-cities/c8nr] across the country, serving about 40 million people (Indianapolis' population is about 850,000). The systems are most common in the country's Northeast and Great Lakes regions and in the Pacific Northwest. The Hoosier State has over 100 communities with CSOs.

Indy passes the baton to Citizens Energy Group

In August 2011, Citizens Energy Group [https://www.citizensenergygroup.com/] assumed responsibility [http://www.indy.gov/eGov/City/DPW/RebuildIndy/Pages/RebuildIndyHome.aspx] for the water and wastewater utilities of Indianapolis. Citizens pledged to operate the utilities for community benefit and create operating efficiencies that would lower costs.

According to Citizens, combining Indianapolis' water and wastewater systems with their natural gas, steam and chilled water utilities is projected to to reduce future utility rate increases by 25 percent.

Citizens also committed to assume $1.5 billion in debt, and the utility transfer will provide the City of Indianapolis approximately $400 million - which the City has allocated for fixing streets, sidewalks, bridges and to take down abandoned homes. These ongoing infrastructure improvements were part of the City's RebuildIndy [http://www.indy.gov/eGov/City/DPW/RebuildIndy/Pages/RebuildIndyHome.aspx] program - Mayor Greg Ballard's 2010-2013 initiative to address Indy's highest-priority infrastructure needs. The scope of the Mayor's 2014-2017 *RebuildIndy 2* plan will allow the Department of Public Works [http://www.indy.gov/egov/city/dpw/pages/home.aspx] (DPW) to carry out an additional $350 million in improvements (without raising taxes).



[http://2.bp.blogspot.com/--XFGfIbWEi0/VD81I2NU04I/AAAAAAAABcQ/vsWCAeRbLxE/s1600/Sewer%2BDiagram.png]
Diagram of Indianapolis' Deep Rock Tunnel System.
Adapted from Citizens Energy Group.
Image property of Daniel Overbey.

How is Citizens Energy Group Going to Get There?

The CSO LTCP is multi-faceted and includes:

1. Using existing infrastructural capacity - via inflatable dams and pinch valves.
2. Constructing new storage and conveyance - via the Deep Rock Tunnel System and storage tanks.
3. Expanding / upgrading treatment facilities - such as the Belmont and Southport Belmont Advanced Wastewater Treatment Plants (AWTP).

The CSO Deep Rock Tunnel System - also known as the Dig Indy Tunnel System [http://www.citizensenergygroup.com/Our-Company/Our-Projects/Dig-Indy] - is the rock star (sorry) of the group. Buried 225-275 feet deep in bedrock, the 25-mile long network of 18-foot diameter finished tunnels will store more than 250 million gallons of sewage during and after wet weather, and then slowly release the sewage to the wastewater treatment plant when capacity becomes available.

It is also expensive. The 2014-2015 investments alone are slated to exceed $500 million. Citizens Energy Group expects the water and sewer system improvement to total $4 billion by 2025. Citizens Energy Group is clear that higher utility rates "will be necessary" over the next decade as well. But the CSO LTCP is being approached as a 100+ year system life solution and will be worth the investment in the long-term.

How can the design community help?

The solutions to combined sewage overflow issues have many parallels with energy efficiency. Utilities have to meet the demand of its customer base. If the community's building stock can utilize energy conservation measures - things like LED lighting, increased insulation, high-efficiency HVAC systems - then consumer energy demand can be mitigated or even reduced. Likewise, if *water conservation measures* are implemented at a large scale - things like low-flow fixtures and fittings, greywater reuse, and low-impact development [http://water.epa.gov/polwaste/green/] (LID) - then there will be less sewage/stormwater sent for treatment. That means less burden on the city's conveyance system.

Moreover, green infrastructure [http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm] must to be part of the solution. Rainwater and greywater must be approached as *resources*. Nature hydrology should be emulated in order to manage runoff rates and water quality. We must balance opportunities with risk and incorporate sustainable design features and operational strategies. For Indianapolis, not only is human and environmental health is at stake, but so is the Circle City's long-term competitiveness in the global marketplace.

Posted 16th October 2014 by Daniel Overbey AIA, NCARB, LEED AP (BD+C, ID+C, O+M), WELL AP

Location: BDMD Architects

Labels: City of Indianapolis, CSO, EPA, Indiana, Sustainable Sites, water, Water Efficiency

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Panel Readings III: Regulated Investor-Owned Water Utilities

1. Audit Compares Private Water Utilities versus Public
2. Moody's Pennsylvania: Municipalities and investor-owned utilities benefit from privatization legislation
3. Reason: Why Water Privatization Adds Up
4. Some Towns Regret Selling Water Utility
5. PUC Approves Pa American $194 million Takeover of Scranton Sewer System
6. Investor-owned Utilities Benefit As Fair Value Legislation Incentivises System Sales
7. Investor-owned Water Firms Boast Sterling SDWA Record
8. American Water Receives 29 National Awards for Excellence in Water Quality
9. There's A Secret Ware Being Waged Over Your Drinking Water

WATER ONLINE

News Feature | August 14, 2014

Audit Compares Private Water Utilities vs. Public

By Sara Jerome
@sarmje

Who does it better: municipal water utilities or investor-owned operations?

California authorities released a report in July making this comparison. The audit focused on investor-owned California Water Service Company as well as the municipal operations Los Angeles County Waterworks District No. 40, Palmdale Water District, and Quartz Hill Water District.

One of the biggest differences between the utilities was how much they spend on water.

"Cal Water's cost to purchase water was only 4 percent of its total costs, the lowest among the water utilities. Cal Water relies on groundwater wells for 87 percent of the water it supplies to its customers. The cost to pump this groundwater is reflected in Cal Water's operating and power costs. LA District 40 and Quartz Hill purchased 63 percent and 67 percent, respectively, of their water supply from wholesalers," the report said.

The report noted other differences between public and private utilities, as well. "With regard to non-operating revenues, public utilities have a source of revenue other than rates that they can rely on for their operations," the report said.

Something the utilities had in common: rate hikes.

"Each of the four water utilities serving the valley increased its rates between 2011 and 2013 and, generally followed the processes outlined in state law," the audit said.

Cal Water publicized the results, saying that the report portrayed that its rates have been "properly implemented." The audit validated the presence of surcharges on its customer bills. "The water revenue adjustment mechanism ensures that Cal Water and its customers are not at risk for the under– or over–collection of revenues following the commission's approval of rate structure changes to encourage water conservation," it said.

The report said the public utilities largely met requirements for rate hikes.

"All three public utilities complied with the procedural requirements for increasing water rates under Proposition 218, with some exceptions for Quartz Hill and LA District 40. Although Quartz Hill satisfied the procedural requirement to set forth the basis upon which it calculated the fee increase, we believe the level of detail fell short of providing the public with a full understanding of its rationale for the increase," it said.

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Contacts

Lauren Kim 212-553-4780
Associate Analyst
lauren.kim@moodys.com

Ryan Wobbrock 212-553-7104
VP-Senior Analyst
ryan.wobbrock@moodys.com

Kareem Afifi 212-553-4710
Associate Analyst
kareem.afifi@moodys.com

Leonard Jones 212-553-3806
MD-Public Finance
leonard.jones@moodys.com

Jim Hempstead 212-553-4318
MD-Utilities
james.hempstead@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Local government and regulated water utilities - Pennsylvania

Municipalities and investor-owned utilities benefit from privatization legislation

Pennsylvania (Aa3 stable) municipalities and regulated investor-owned utilities (IOUs) will both benefit from legislation removing hurdles for local governments to sell water and wastewater utilities. Act 12 of 2016 offers an alternative framework for asset valuation, providing municipalities with a new opportunity to relieve fiscal distress and a chance to avoid capital investment. For their part, IOUs gain an opening to increase acquisitions, a key strategy. Still, a credit boost on either side can be tempered if, for example, municipalities poorly manage sale proceeds or IOUs face political opposition to rate increases.

» **Act 12 benefits municipalities by providing a chance to boost sale proceeds, while IOUs gain visibility on recovery.** The "fair market valuation" legislation, which offers a voluntary process for an independent appraisal of a system's value, gives municipalities a potentially more lucrative way to monetize assets. Act 12 also incentivizes IOUs to make acquisitions, largely due to improved cost-recovery measures.

» **Pennsylvania municipalities are increasingly seeking to sell water and wastewater assets.** Using the Act 12 process, financially troubled McKeesport will net $43 million if its pending sale is approved, which could eliminate all general obligation (GO) debt and nearly all unfunded pension liabilities. This deal follows distressed Scranton's sale netting $83 million that the city is using to reduce debt and possibly help fund pension obligations. In June, financially stable New Garden Township became the first municipality to close a transaction using Act 12, looking to eliminate system improvement costs.

» **IOUs are expanding in Pennsylvania, where Act 12 will help further their growth-by-acquisition strategy**. Act 12 and other provisions make Pennsylvania the most regulatory friendly state for municipal utility acquisitions. While smaller transactions have been the norm, Pennsylvania-American Water Company's (PAWC, A3 stable) transactions with McKeesport and Scranton (total 55,000 customers) signal a desire for larger transactions that offer economies of scale amid declining water use.

» **Poor management and/or a weak economy can reduce the sale benefits for a municipality, while rate fatigue poses a risk for IOUs.** Coatesville's 2001 sale netted $39 million, which the city placed into a reserve fund, but the amount dwindled to $6 million in 2015 largely due to litigation involving a golf course. For an IOU, acquisitions can be credit negative if rate increases become too burdensome on customers and lead to political intervention.

Act 12 benefits municipalities by offering a chance to boost sale proceeds and gives IOUs better visibility into cost recovery

Enacted in June 2016, Act 12 offers the prospect of IOUs increasing acquisitions of municipal regulated water and wastewater assets. The new law addresses inherent problems both IOUs and municipalities faced prior to the regulatory change such as assessing the value of the utility's assets, IOU investment recovery through rate base adjustments, and post-acquisition "rate shock" to customers. While it does not guarantee success with every transaction, Act 12 is credit positive for municipalities and IOUs.

Legislation establishes process for determining 'fair value' of a municipality's water and wastewater systems

Act 12's new approach to utility valuations based on "fair market valuation" helps determine a price that aims to best serve the financial health and stability for buyers and sellers. Prior to Act 12, Pennsylvania statute called for a "cost approach" valuation method, which is generally the original cost of construction less accumulated depreciation. For systems that were heavily depreciated or constructed with grants or other sources of aid, this method reduced the potential sale value for municipalities. Additionally, because this method gave no consideration to system revenues and market values, interested IOU buyers had little visibility on potential profits.

Act 12 employs a "fair market valuation," which takes into account cost, market and income valuation in determining the value of a system. But the Act 12 process is voluntary, where both the buyer and seller must agree to use the law's valuation framework, which calls for an independent appraisal of a system's value.

Rate base adjustments and post-acquisition accounting support acquisitions

While water and wastewater utilities are reasonably low-risk operations, they are capital intensive and require continuous and at times extraordinary investments. From the buyer's perspective, one of the main obstacles to an acquisition is the uncertainty around investment recovery, which occurs through authorized rates approved by the Pennsylvania Public Utility Commission (PUC). The new law mitigates this risk by allowing the seller's rate base to be incorporated into the buyer's rate base at either the lesser of the purchase price or the fair market value of the utility. Effectively, a larger ratemaking base allows the IOU to negotiate for a larger rate increase from the PUC, which must approve Act 12 transactions.

Additionally, Act 12 provides a buyer with better visibility with respect to the return on post-acquisiton enhancements not already garnered from the distribution system improvement charge (DSIC) on customer bills (see highlight box below) in two ways:

- It allows fund accrual spent on construction until the asset is in service for four years or until it is included in the next base rate (whichever is earlier).
- A buyer can defer depreciation for bookkeeping or ratemaking prospects.

Distribution system improvement charge (DSIC) looks to spur system upgrades before increased rates

Created in Pennsylvania, the DSIC is a surcharge on customer bills to accelerate the investment into existing facilities, which would generally wait until the next rate increase. The charge helps facilitate compliance with evolving regulations and provides a buffer for consumers from "rate shock." Consumer protections built into DSIC include a rate cap, required PUC audits on DSIC-eligible projects and a reset to zero as of the effective date of the new base rates that provide cost recovery. System improvement charges help to reduce the frequency and associated costs of rate cases while helping maintain and improve service quality, safety and stability.

Act 12 provides buffer from post-acquisition 'rate shock'

One of the major concerns facing consumers in the privatization of utilities is post-acquisition rate increases and potential for "rate shock." With Act 12, the PUC approves a rate stabilization plan to hold rates constant or phase rates in over time to help reduce the

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impact. While future increases beyond the rate stabilization plan may be implemented, Act 12 provides initial relief post-acquisition, a credit positive for both local governments and IOUs since it can relieve political pressure to prevent a sale.

Municipalities are increasingly seeking to sell water and wastewater assets

Municipalities are increasingly seeking to sell utility assets to help with a financial turnaround or save on costs related to upgrades and regulatory compliance, or a combination of both. For financially strapped cities, a sale can provide a large enough windfall to help restructure a strained balance sheet. In other cases, cities in better financial shape are looking at unloading their assets to shed costs related to upgrades, repairs and meeting regulations set by the state and federal government. These sales can also provide funds to reduce additional financial obligations and make other investments.

With its pending sale to PAWC, McKeesport looks to be the first example of the Act 12 process offering a city the opportunity to accelerate a financial turnaround through a sale of its wastewater system. The agreement follows Scranton's late 2016 sale to PAWC outside the Act 12 process, which offers the most prominent example of a city selling a wastewater system seeking critical financial relief. [PAWC is a subsidiary of American Water Works Co. (A3 stable).] Scranton is the sixth largest city in Pennsylvania with about 76,000 residents.

Aqua Pennsylania's June acquisition of the much smaller New Garden Township system is the first PUC-approved transaction involving the Act 12 process. (Aqua Pennsylvania is a subsidiary of Aqua America, Inc.) New Garden appears to be in better financial shape than McKeesport or Scranton and, rather than seek relief from financial distress, the transaction allows it to shed costs related to system upgrades and use the funds to make other investments. Similarly, New Cumberland's sale to PAWC in October 2016 outside of Act 12 allowed the city to eliminate expenses related to system upgrades and to pay off its GO debt.

For a municipality, there are potential downsides to a sale. A transaction provides a one-shot revenue source and turns over operations of a key municipal service to a private entity.

McKeesport seeks financial relief from utility sale

Financially struggling McKeesport is set to benefit handsomely if PAWC's offer to acquire its McKeesport Municipal Authority (A2 developing) for $162 million is approved by regulators. The sale would net the city a $43 million windfall, enough to eliminate its GO debt and nearly all adjusted pension liabilities should it decide to use the proceeds in that manner. If the sale is rejected, the city of 19,000 would very likely move into the state's Act 47 oversight program. Act 47 is intended to help municipalities implement reforms to move towards financial solvency.

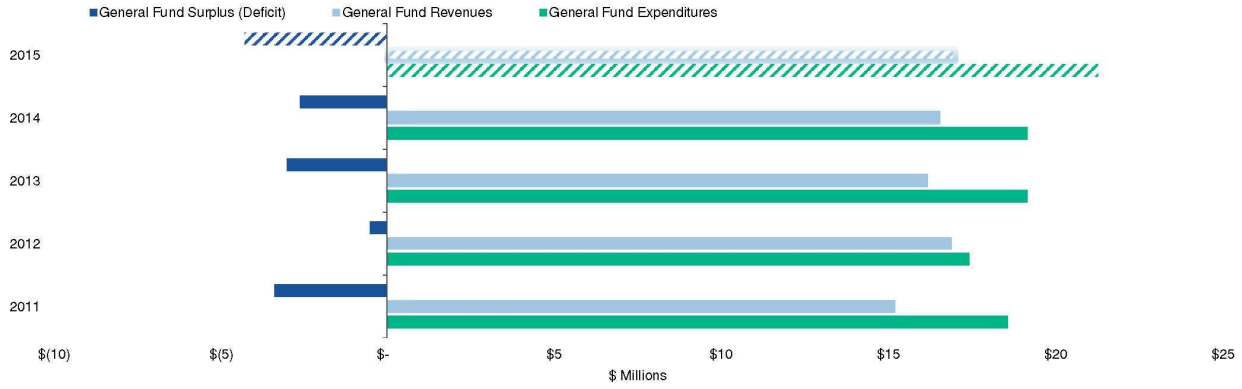
The McKeesport Municipal Authority wastewater system has seen its finances decline, marked by high debt levels (6.6 times operating revenue) and sizable annual transfers to the City of McKeesport via an intergovernmental agreement that reduced debt service coverage (including subordinate debt) to a narrow 1.1 times in fiscal 2015. Currently, the authority's rate covenant is 1.0 times, which is weak.

The main driver for the sale is not the authority's troubles, but its relationship with the fiscally distressed city. The required transfers to the city have become increasingly burdensome. If regulators reject the sale, the authority will continue to struggle.

The sale comes at a critical time for McKeesport, which has been structurally imbalanced for years (see Exhibit 1) as rising costs related to pensions and health insurance have caused financial distress, despite annual infusions of capital, in particular, from the authority.

Exhibit 1

McKeesport has endured years of structural imbalance, contributing to the sale of its wastewater system



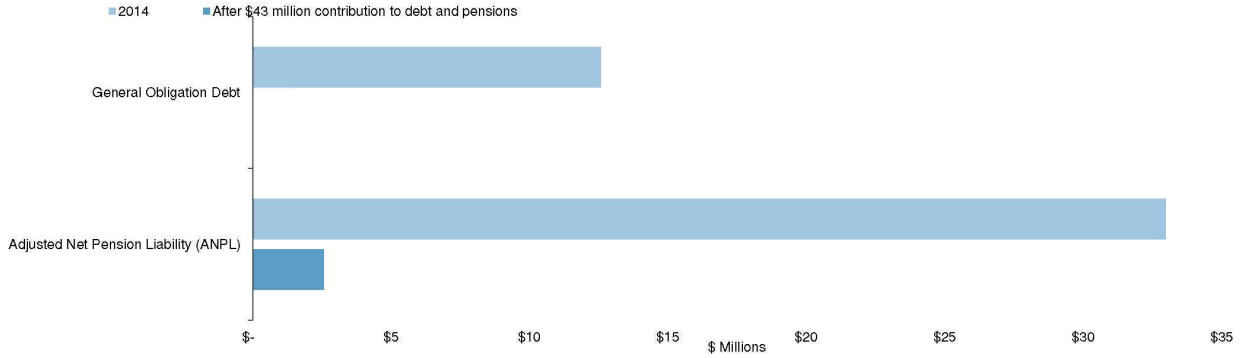
Note: Fiscal 2015 data is unaudited.
Sources: City of McKeesport audits, Moody's Investors Service

The municipality's distress was accentuated in early 2016 in a state auditor report, which showed the city mistakenly spent $729,275 in state funds in 2015. The funds were allocated for pensions and, without them, the city could not pay the $1.5 million to meet its minimum pension contribution of $2.3 million. The city's fire and police pensions were already in distress at the time.

The $43 million in sale proceeds could prove to be a boon to city finances and dramatically reshape its balance sheet. If the city were to allocate the entire windfall to debt and pensions, the capital injection would help the city immensely by retiring its $12.6 million in GO debt (as of fiscal 2014) and reduce adjusted liabilities to $3 million from $33 million under Moody's adjusted net pension liability (ANPL) measure (see Exhibit 2).

Exhibit 2

McKeesport's potential $43 million in sale proceeds could wipe out GO debt and markedly reduce its ANPL



Note: City's most recent audited financials are from 2014.
Sources: City of McKeesport audits, Moody's Investors Service

Financially troubled Scranton seeks to alleviate distress with sale

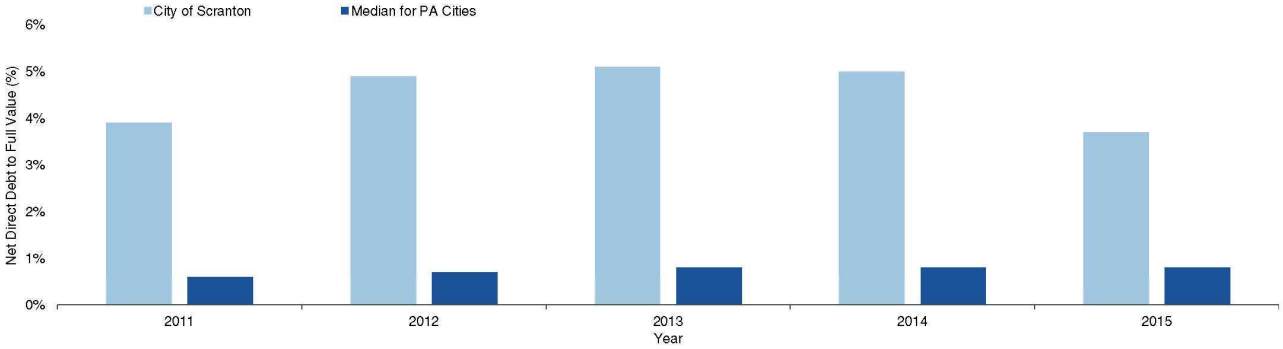
In December 2016, PAWC announced the acquisition of Scranton's wastewater system, which services both the city and Dunmore borough. Scranton has been under the state's Act 47 program since 1992. From 2011-14, the city ran four consecutive general fund deficits. The sale of the wastewater system totaled $195 million ($156 million, net of $38 million cash on Scranton's balance sheet) and netted the state's sixth largest city $83 million, of which approximately $43 million will be used to defease GO debt. The transaction with PAWC did not use the Act 12 process but serves as an example of how financially troubled cities might use it to spur a turnaround.

In 2015, Scranton's $90.6 million direct debt burden was 3.7% of full value, or 4.6 times greater than the median for Pennsylvania cities (see Exhibit 3).

Exhibit 3

Scranton faces high debt burden compared to other Pennsylvania cities

Net direct debt to full value (%)



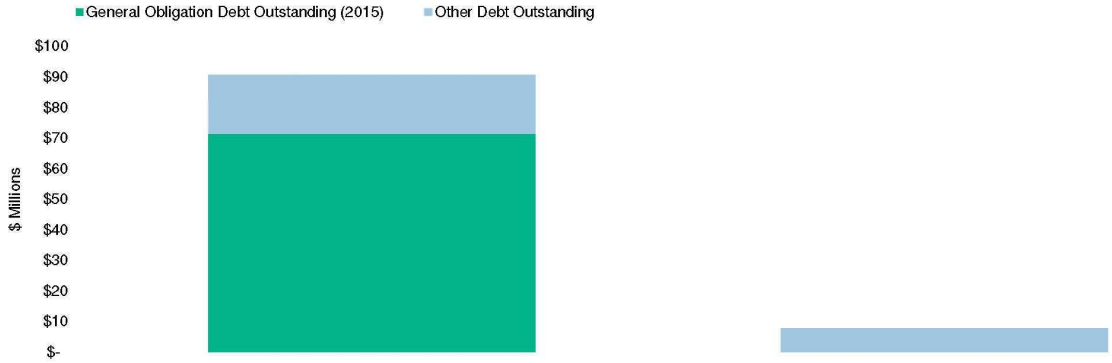
Note: City's most recent reported data is from 2015.
Source: City of Scranton audits

Scranton has already used about $28 million of its utility sale proceeds to defease high coupon GO bonds and plans to use $15 million more to defease another portion of its GO debt. The city has indicated an interest in using the remaining $40 million to further reduce debt and/or help fund its pension obligations.

If that remaining $40 million were used entirely for debt reduction, the city's GO debt would be wiped out and the total debt burden would fall by 92% with only $7.6 million in other debt outstanding (capital leases and state loans), based on the most recently reported data (see Exhibit 4). The city would gain approximately $10 million to $13 million in additional liquidity annually from a reduction in debt service payments.

Exhibit 4

Scranton can wipe out all GO debt if additional $40 million from utility sale goes towards debt reduction



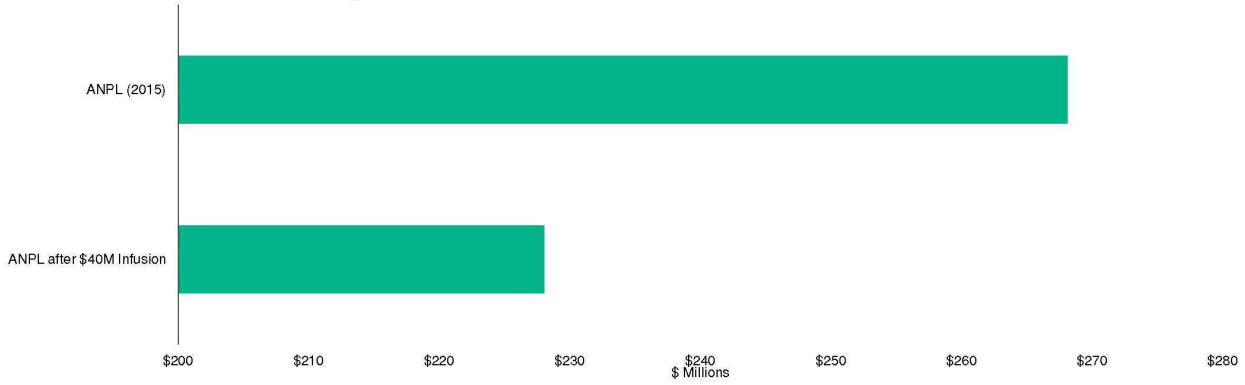
Note: City's most recent reported data is from 2015.
Source: City of Scranton 2015 audit

Scranton's pension funding distress intensified from 2010 to 2015, where ANPL grew by 53.8% to $268.1 million from $174.3 million. In fiscal 2015, ANPL was 3.1 times operating revenues.

If $40 million were applied to pensions, Scranton's ANPL would be reduced by 15% to $228.1 million from $268.1 million (see Exhibit 5). While this would help reduce the pension burden for the city, the ANPL would still remain much higher than 2010 levels.

Exhibit 5

Scranton pensions would remain severely underfunded even after $40 million infusion



Note: City's most recent reported data is from 2015.
Source: City of Scranton 2015 audit, Moody's Investors Service

Municipalities are selling due to difficulty or unwillingness to finance major projects involving repairs and regulatory upkeep

Many municipalities in Pennsylvania are choosing to sell utility systems not because of financial distress, but as a way to avoid the considerable costs associated with maintenance and upgrades to comply with state and federal regulations.

New Garden Township seeks savings on system repairs

In June, Aqua Pennsylvania closed its transaction with New Garden Township, acquiring the township's sewer system for $29.5 million (roughly 5.7 times general fund revenues). New Garden, with a population of 12,000, is the first municipality to receive PUC approval on a transaction that used Act 12. The sale will save New Garden approximately $12 million, the amount needed to fund the sewer system's five-year capital improvement plan. It will also reduce customer rates.

Aqua will assume all responsibilities for the system's permits and assets, and complete all modifications and improvements needed to meet regulatory requirements. The city plans to use proceeds from the sale to pay off sewer system debt while reserving funds to satisfy pre-existing obligations of the system. It also plans to establish reserves for future capital expenditures for the township.

Customer rates will be frozen for two years following the sale but will grow at approximately 4% annually over the next 10 years, with a 10-year end rate of approximately $263 per quarter. This is much less than the rate increases had the township held onto its sewer system, where rates would have increased 40% in 2017, and by another 27.5% in 2018. At the end of the 10-year period, customers would have paid roughly $340 quarterly without the sale.

New Cumberland sale aimed at relieving utility costs

In October 31, 2016, PAWC acquired New Cumberland Borough's wastewater system for $23 million, or approximately 4.5 times general fund revenues. The borough with about 7,000 residents wanted to free itself of high costs associated with maintenance and government mandates regarding system upgrades.

While the borough is by no means in fiscal distress, the small $522 million tax base (2016 full value) and median family income at 108% of the US contributed to the decision to sell the system in an effort to bolster finances for the long term.

The sale of the system was considered the most favorable option, providing the opportunity to eliminate the borough's $15.2 million GO debt as well as relieve New Cumberland of all future wastewater treatment capital costs. Wastewater rates will be frozen until January 1, 2018. PAWC also committed to invest $2 million over the next five years in capital improvements for the system that dates back to the 1940s.

Fairview Township sale aimed at eliminating investment in system upkeep

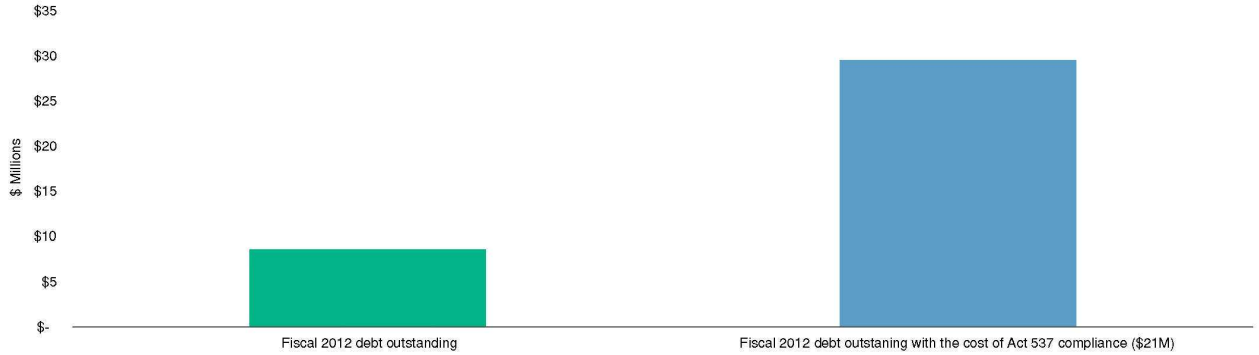
In December 2015, PAWC announced the acquisition of Fairview Township's wastewater system for approximately $16.8 million (roughly 2.5 times general fund revenues), netting approximately $5 million to $5.5 million for the township. The municipality with

4,500 residents sold its wastewater system because of rising maintenance costs and the investment needed for regulatory compliance. Fairview offers an example of how a small sewer system's revenue growth is limited in comparison to the capital required to comply with mandated regulations, overburdening a system and, in turn, overburdening the township whose full faith and credit backs the utility's bonds.

In 2010, Fairview Township Municipal Authority (owned by the township) began incurring costs related to Act 537, where the state Department of Environmental Protection Agency required the expansion of its sewer system to include certain areas within the township. Act 537 would have cost the authority $21 million in additional debt, effectively raising the authority's sewer debt by 3.5 times starting in fiscal 2012 (see Exhibit 6).

Exhibit 6

Cost of compliance would have tripled Fairview Township's Municipal Authority debt



Source: Fairview Township Audits, Moody's Investors Service

If the authority had issued $21 million in debt in fiscal 2015, its debt to operating revenues would have tripled, given the limited growth in operating revenues. From 2012 to 2015, revenues grew modestly by 8.7%.

City of Allentown demonstrates other options besides a sale

While many municipalities are looking to sell their water or wastewater system, others are looking to lease. Leasing a system allows a municipality to keep the asset long term while utilizing the upfront payment to settle immediate balance-sheet hurdles, particularly regarding debt and pensions. While this seems like a win-win situation, it is essentially a debt transaction where a revenue generator is exchanged for debt, which is paid for by the residents in the form of rate increases.

In a growing trend in the water and wastewater industry, Allentown took this leasing approach in 2013. The city reached a 50-year lease agreement with another public entity, Lehigh County Authority (LCA). Under the terms, LCA operates, manages, maintains and collects revenue from Allentown's water and wastewater system in exchange for an upfront $211 million payment and $500,000 annually, adjusted for inflation, starting in 2016.

The lease agreement provides Allentown with relief from its growing pension problem, a critical issue which threatened the fiscal health of the city, if not remediated in the near term. Allentown, the state's third largest city, used $160 million of its lease proceeds for pension relief, $29 million to pay water and sewer debt and $15 million for reserves. The LCA issued nearly $300 million in 30-year sewer and water revenue bonds to make the upfront lease payment, which will cost up to $646 million in principal repayment and interest for the life of the bonds. The lease agreement would generate approximately $2.5 billion in the first 35 years, according to a 2013 financial analysis study. (See next page for more.)

Lease deal prompts litigation

Just three years into the Allentown agreement, the LCA filed a dispute with the city through the dispute resolution process outlined within the lease. LCA claims that the city's wastewater system "improperly" inflated sewer expenses to raise rates on local municipalities. In the lease agreement, LCA agreed to pay Allentown for services at a rate based on the city's actual operating costs at the treatment plant. Because LCA's accounting practices do not include cost inflation, rates have gone down by more than 30%, resulting in a loss of revenue for the LCA.

The LCA does not have the means to make up for lost revenue because rate caps are built into the lease. This comes as the LCA's capital improvement costs on the Allentown system are likely to rise as required planned projects (replacement of infrastructure/system components and ongoing repairs) come online, dictated through the lease.

The case is currently pending. The LCA sought arbitration with the American Arbitration Association in late March. The result of the litigation could be a credit negative for Allentown or the LCA or both.

IOUs are expanding in Pennsylvania, where Act 12 will help further their growth-by-acquisition strategy

Acquisitions are gaining emphasis as a growth vehicle for regulated companies like American Water and Aqua America, offering opportunities to counter declining water use and capitalize on economies of scale. The addition of Act 12 and other policies make Pennsylvania the most regulatory friendly state for municipal acquisitions in the country, a credit positive. And momentum is building in the state for larger acquisitions beyond the traditional "tuck-ins" – purchases of small systems adjacent to an IOU's existing service territory. This is in evidence by American Water subsidiary PAWC's Scranton purchase ($195 million for around 33,000 customers) and its pending McKeesport transaction ($156 million for around 22,000 customers). Both deals offer a template for financially troubled municipalities seeking to sell.

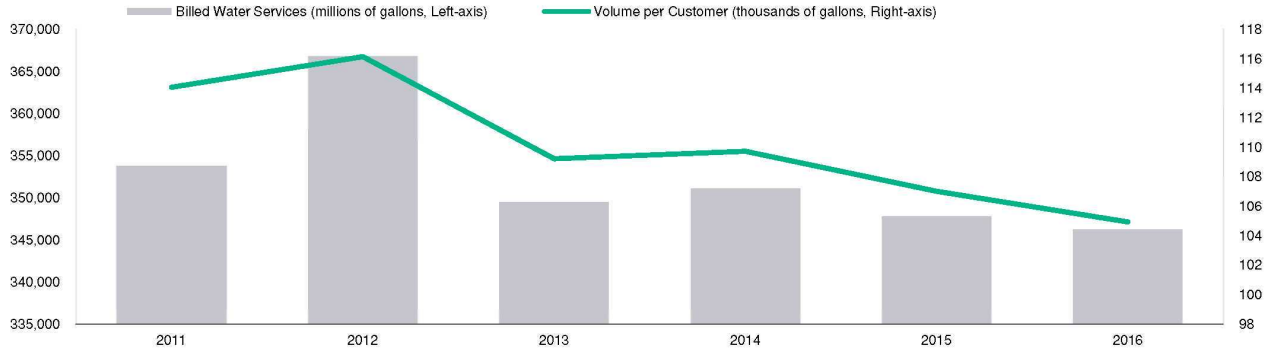
We view the logic behind the municipal acquisitions as sound, given the highly fragmented nature of the water and wastewater sector. The acquirer's credit quality should be maintained or even improved as its rate base increases. Economies of scale can materialize if a buyer already provides water to a municipality, which PAWC has done for some time in Scranton. The benefits of spreading fixed costs across a larger asset platform and customer base is credit positive.

Declining water use is challenging IOUs, prompting search for acquisitions

Most IOUs are experiencing declining water volume sales per customer, as more efficient appliances and customer conservation efforts take effect. Both volume per customer and total billed water services have declined at American Water over the 2012-16 period (see Exhibit 7). The regulated company has operations in 16 states and serves approximately 3.3 million customer connections.

Exhibit 7

American Water sales per customer are in decline, making acquisitions an increasingly important growth strategy



Source: American Water 10Ks

With the lack of organic sales growth, IOUs are looking outside their current service territories for growth opportunities, notably in Pennsylvania where the passage of Act 12 provides a negotiation framework for IOUs and municipalities. Here, growth-by-acquisition is gaining momentum as municipalities seek to monetize systems at a higher price, while local governments look to relieve themselves of costs involved with system upgrades and regulatory compliance.

McKessport is by far the largest of American Water's 17 expected nationwide acquisitions this year. Similarly, Aqua has already closed on the acquisition of New Garden Township, the second largest of its four expected deals in 2017 (see Exhibits 8 and 9).

Exhibit 8

American Water expects to close on 17 system acquisitions in 2017 serving over 33,000 customers

State	No. of Acquisitions	Water Customers	Wastewater Customers	Total Customers
California	2	4,878	-	4,878
Iowa	1	719	-	719
Illinois	4	1,083	1,722	2,805
Indiana	1	1,300	-	1,300
Missouri	3	546	449	995
New York	4	286	-	286
Pennsylvania	1	-	22,000	22,000
West Virginia	1	215	-	215
Total	**17**	**9,027**	**24,171**	**33,198**

Note: Pennsylvania figures include the pending McKeesport acquisition, which represents 22,000 customers due to bulk contracts. Connections to the system will be approximately 11,000.
Source: American Water

Exhibit 9

Aqua America anticipates closing four municipal acquisitions in 2017 and adding almost 9,000 customers

System	Type	Customers	Purchase Price ($ millions)
System A	Muni	5,400	$ 75
System B	Muni	2,100	$ 29
System C	Muni	700	$ 5.5
System D	Muni	600	$ 3.6
	Total	8,800	$ 113

Note: System B is Pennsylvania's New Garden Township wastewater system.
Source: Aqua America

Pennsylvania's legislative and regulatory provisions remove critical barriers to acquisitions

Large-scale acquisitions for financially distressed municipalities like Scranton are even more likely because of Pennsylvania's Act 12 that allows for enhanced cost recovery. The "fair market valuation" legislation was also a key incentive behind the New Garden and McKeesport transactions because it provides clarity on how higher purchase prices, including premiums required to close the transaction, will be recoverable via customer rates.

Fair market value-type legislation is also available, in limited circumstances, in other states, such as California, Connecticut, Indiana and Mississippi. Some of these states only offer premium recovery if a water or wastewater system is determined to be "troubled" (i.e., at risk of failing water quality standards due to underinvestment) or in other unique circumstances. However, Pennsylvania is applying Act 12 more broadly, offering more opportunities for large IOUs like PAWC and Aqua Pennsylvania.

Pennsylvania also has other features that incentivize acquisitions beyond fair market value cost recovery. One of the more important features is 52 Pa. Code § 69.711(a)(6). This law allows for a single rate across service territories, rather than the typical state rate structure where different rates are set for discrete localities.

Single rates allow the acquisition premium and investments in the acquired system to be spread across the entire service territory of the acquiring utility. The result is that all customers see a small rate increase versus a few customers seeing a very large rate increase. This feature is particularly helpful to IOUs and acquired customers when a system is in need of material improvement.

In some cases, low municipal water and wastewater customer rates are the result of foregone investment in the system. If this is a protracted trend, the municipal assets likely require a significant amount of capital for system refurbishment. By spreading the capital costs across an entire customer base, IOUs can make the needed improvements while shielding acquired customers from a degree of rate shock.

Unique to Pennsylvania, the PUC has allowed utilities to combine the water and wastewater rates for all customers. Similar to single rates, the combined rates allow utilities to apply economies of scale across their entire customer base.

The collection of these provisions makes Pennsylvania the most regulatory friendly jurisdiction for water and wastewater consolidation in the country. The suite of cost-recovery provisions eliminates some of the key obstacles potential acquirers face when calculating the cost/benefit and risks of executing acquisitions, thereby promoting an environment where we expect more consolidation activity to take place.

Cost recovery in Pennsylvania helps protect IOU credit quality

A primary risk in PAWC's acquisition of the Scranton system is the cost recovery of over $29 million of goodwill that represents a premium to the book value of the city's wastewater system. Since negotiations began before Act 12 was implemented, PAWC is attempting to justify recovery of the full asset value in its most recent rate filing. There is a risk, however, that some or all of the premium will not be allowed in the rate base, which would create a drag on PAWC's financial profile.

On the other hand, Aqua's acquisition of New Garden will not face this risk since it was the first deal transacted under Act 12 and it is expected that the full purchase price will be included in Aqua's base rates upon its next filing.

In future transactions, it is likely that PAWC, Aqua Pennsylvania or others will negotiate prices along the lines of the fair market value assessment at the core of Act 12, and obtain regulatory approval for the asset value before a rate case is filed. This would ensure that the acquirer will recover the full price through rates. Act 12 and regulatory approvals should support the acquirer maintaining its existing financial profile.

With the backdrop of cost-recovery provisions and supportive regulation in Pennsylvania, the biggest transaction-related credit risk for PAWC and Aqua Pennsylvania is how they decide to finance the deal.

While PAWC's acquisition of the Scranton Sewer Authority was initially funded with revolver borrowings by parent American Water – a credit negative – we expect PAWC will recapitalize both itself and American Water with an even mix of debt and equity, once Scranton is placed into PAWC's rate base. An even mix of debt and equity is credit neutral and we expect that future transactions will follow this type of funding strategy. Should any acquirer fail to recapitalize with a debt/equity mix, or if debt becomes the long-term funding source, credit challenges will build.

Poor management and/or a weak economy can reduce the sale benefits for a municipality, while transaction size and rate fatigue pose risks for IOUs

Despite the upside in the privatization of water and wastewater systems, long and sustainable fiscal relief for municipalities is not guaranteed. While immediate financial relief is likely, the long-term condition of the municipality largely relies on prudent management, including sound planning, along with the strength of the local economy. Separately, for IOUs, customer and political opposition can negatively affect the profitability of an acquisition.

Coatesville nearly squanders sale proceeds

Coatesville nearly depleted proceeds from its reported $48.2 million sale in 2001 after using most of the funds to cover legal costs related to a golf course development. Located in Chester County (Aaa stable), Coatesville was one of the first Pennsylvania municipalities to sell its water assets to a private company. The city of 13,000 is the poorest of 16 urban centers in Chester County, with almost 33% of its residents living below the poverty line.

Built in 1932, the city's large water and wastewater system was in dire need of improvements and upgrades, prompting city officials to accept bids from potential buyers. Initially, there was pushback regarding the sale; however, with rising maintenance costs, debt obligations and the city's worsening financial position, selling the wastewater system to PAWC appeared to be the logical option.

When the city sold the system in 2001, it planned to use the proceeds to retire debt obligations, reduce taxes and revamp its infrastructure. Following the sale, the city appropriated $9 million for debt obligations. The remaining $39 million was placed into a reserve trust fund with the sole purpose of generating returns via investments to reduce taxes and fund infrastructure projects to boost economic development.

Poor management and budgeting practices reduced the $39 million (approximately 4.4 times general fund revenues) reserve to approximately $6 million (0.7 times general fund revenues) in 2015. Almost 85% of the trust's funds were spent on lawsuits related to the golf course development as well as to cover annual budget deficits.

Coatesville is an example of the need for strong financial management after a utility divestiture because the sale provides only a one-time revenue boost and is irreversible.

Intensified customer pushback and political opposition could negatively affect IOUs

Acquisitions could harm IOU credit quality if rate increases become too burdensome on customers and prompt intensified pushback. If acquisitions in Pennsylvania (and elsewhere) accelerate as we expect, the trend could cause a spike in acquisition premiums where customers will be asked to help cover the costs. In all cases, customers will bear the costs of the transaction, the capital investment needed to upgrade the acquired system and the return on IOU equity.

While spreading costs across a larger customer base can help mitigate the magnitude of an individual's rate increase, rate fatigue could ensue if customers are asked to continuously cover sizable goodwill premiums for systems that do not serve them. If transaction premiums become too large or acquisitions layer on too quickly, rates could hit an inflection point where customers are unwilling to absorb higher costs. This could also hurt an IOU's ability to pass through other rate increases from general rate cases or infrastructure investments.

Should customer pushback intensify, we see a higher probability of political intervention into the rate-making process. At minimum, this would add a degree of unpredictability to utility cost recovery, a credit negative. A more severe consequence would be changes to the rate-making process or legal framework, which would serve to undermine the current level of cost recovery.

Moody's Related Research

Special Comment:

» US Investor-Owned Water Utilities Stack Up Well Against Global Peers, April 22, 2014

Credit Focus:

» US Regulated Water Utilities: Capital Structure and Rate Structure Drive Creditworthiness, October 24, 2014

Credit Opinion:

» Pennsylvania-American Water Company, Inc., August 10, 2016

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Why Water Privatization Adds Up

1 in 6 Americans gets drinking water from privately owned systems

Adrian Moore
November 21, 2003

There is a tendency to think there is a wide gulf between private and government water utilities, but that does not reflect people's own experiences nor the wealth of institutional comparison research.

In my life I had water provided to my home by privately owned water utilities, government owned and operated water utilities, and government owned and privately operated water utilities. Unlike most people, I knew which was which.

- 2 of every 5 drinking water systems nationwide are privately owned regulated utility systems.
- 1 of every 6 Americans gets drinking water from privately owned regulated utility systems.
- Roughly 1 of every 25 communities in the rest of the nation has a government owned and privately operated water utility.

If private involvement in water provision was the high-risk endeavor that critics claim, with those numbers we would have disasters happening all around us. But we don't.

In fact, when Public Citizen set out to report the most heinous examples of privatization gone bad they came up with only one substantiated case of a private operator running amok, buried in the midst of stories of such terrible things as the publicly appointed utilities commissions granting rate increases.

In a rich irony, the researcher for Public Citizen who wrote that report and their other early attacks on privatization quit soon after and came out publicly to explain that his work had taught him that privatization works when done right and that critics have failed to show any problems with it beyond a few anecdotes.

But neither is privatization a White Knight that can ride in and rid a city council of all its water utility worries. It is not an easy, no brainer solution to all our water ills.

In fact it is a policy tool, that like all others, works well when applied properly in the right place.

Why do I conclude that from all of my research?

1. Privatization has bipartisan support as a means of improving the environment and the health of citizens. A 1999 study President Clinton's EPA endorsed privatization as a means by which local governments could meet environmental standards. Indeed the EPA wrote, that privatization creates a classic "win-win" situation. And the former Public Citizen researcher I mentioned now says that his work to dig up dirt on private operators convinced him that "private operators have a respectable record of providing quality water and complying with environmental standards." Comparisons of compliance performance all find that privately

operated utilities are less likely to violate safe drinking water standards.

2. The market and the private sector are not evil. Yes, water is vital, and along with most other vital things, the market has proved exceptional at providing it. The market provides us food and medicine, child seats for our cars... most of the things we allow to be put in our bodies or use each day to make us safer come from the private sector. And that includes water for a very large number of Americans, as I mentioned before. Our government hires contractors to maintain the airplanes that that transport the President, to run the space shuttle, to guard our nuclear power plants, and to build, maintain, and often operate submarines, fighter jets and other high-tech weapons systems. Government remains responsible for establishing and enforcing quality and reliability standards, and with a good contract, contractors have every incentive to ensure the same. Just as with government-run facilities, employees and managers, and their families, live in the community and drink the water. And companies that consistently fail to deliver expected service will soon find no more willing customers.

3. Nearly every credible cost comparison study that has been done shows that privatizing utility ownership or management reduces costs. Even Clinton's EPA argued that private management reduces costs and helps communities achieve compliance.

4. The customers are satisfied. 91 percent of communities choose to continue privatization at renewal time. And this is not because they are captive to the private firms—6% of communities switch to another private company when existing contracts are up, and each year about 10 communities bring services back in house. 94% of communities say they would recommend their private water manager to other communities.

I add all of that up and I cannot say privatization is bad. Nor can I say it is inherently good. I can say it has a solid track record of success, that failures are the small exception, that research and experience show it is a viable option in the right time and place.

Local control and accountability matter. People worry about accountability for private operators, raise specters like foreign ownership of some of the operating firms. We trust foreign-made cars with our lives—and they are far more likely to be the cause of our death than our water is. We ingest foreign-made pharmaceuticals, we eat imported foods, we strap our children into foreign-made car seats, all without really worrying about where they are made. Why? Because there is a system for ensuring they are safe products. Privatization of water and wastewater services does not change the system for ensuring the water is safe and reliable.

The government remains responsible for that system via regulation and contract—they set standards and enforce them with either government or private operations. The partnership in a privatization and the contract that binds it must be based on visible, measurable performance, and reward private companies only if they meet the goals and performance they have promised.

Over 1500 of these contracts have been written, so there is a lot of experience and best practice out there, and consultants who specialize in helping communities negotiate with private operators. Community leaders have to apply the best practices and lessons learned from all of that to their own decision about privatization.

The key is transparency and accountability, and the track record of privatization shows that accountability exists except in rare cases.

Adrian Moore is Vice President of Reason Foundation.

Adrian Moore is Vice President, Policy

WATER ONLINE

News Feature | July 18, 2017

Some Towns 'Regret' Selling Water Utility

By Sara Jerome
@sarmje

Towns that sell their public water systems have been known to catch a case of seller's remorse.

Despite initially seeing benefits in water utility privatization, some communities have come to regret the decision, according to a new report in *The Washington Post*.

"Even as more cities consider selling their water infrastructure, others are trying to wrest control of their systems back from private operators, usually because of complaints about poor service or rate hikes. Since private owners are rarely willing to surrender these lucrative investments, cities usually end up pursuing eminent domain in court. That means proving that city ownership is in the public's interest and then paying a price determined by the court. Those prices can be exorbitant," the report said.

Mooresville, IN, is one example. City residents became annoyed with rate hikes by American Water and tried to regain control of their utility.

"A judge ruled in Mooresville's favor in 2014, but the court-approved price — $20.3 million — was more than the town of 10,000 was willing to pay. Today, Mooresville's water system is still privately owned," the report said.

Similar tensions played out in Fort Wayne, IN.

In 2015, the city "finished paying $67 million to take control of water systems in two areas served by private companies, most recently by Aqua America. The eminent domain effort lasted 13 years and included two separate court cases, a trip to the Indiana Supreme Court, and protracted battles over price," the report said.

Missoula, MT, is another example.

Missoula "took ownership of its water system in June after winning a fight that left the city of 70,000 facing an $88.6 million bill, plus millions of dollars more in expenses," the report said.

The benefits of selling a public water utility are clear, especially as the water infrastructure crisis continues to play out across the country.

“The prospect of offloading these headaches to for-profit water companies — and fattening city budgets in the process — is enticing to elected officials who worry that rate hikes could cost them their jobs. Once a system has been sold, private operators, not public officials, take the blame for higher rates,” the report said.

Supporters of public-private partnerships say there are strong arguments in favor of investing private money in the water supply.

“Proponents of the public-private partnerships, citing recent studies in Canada and Europe, argue that private businesses operate more efficiently than governments do and that this translates into cost savings for citizens,” *The New York Times* reported.

However, selling does come with some downsides.

“Privatization will not magically relieve Americans of the financial burden of upgrading their water infrastructure. Water customers still foot the bill. And although there is no reliable data to compare the service or safety records of public and private utilities, studies show that in most cases, the tab rises when for-profit companies are involved,” the report said.

Janice Beecher, who studies public and private systems as director of Michigan State University’s Institute of Public Utilities, offered advice for communities considering privatization.

“[Elected officials and the public] should ask good questions, and they should understand the trade-offs [before agreeing to sell municipal water systems],” Beecher said. “[Selling a publicly-owned water utility] shouldn’t be rushed. Once it’s gone, it’s gone.”

One thing is clear: The nation’s water infrastructure is in crisis. According to the American Society of Civil Engineers, "At the dawn of the 21st century, much of our drinking water infrastructure is nearing the end of its useful life. There are an estimated 240,000 water main breaks per year in the United States."

"Assuming every pipe would need to be replaced, the cost over the coming decades could reach more than $1 trillion," the American Society of Civil Engineers reported, citing the American Water Works Association (AWWA).

To read more about how water utility finances visit Water Online Funding Solutions Center.

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Business (Http://Www.philly.com/Business)

— Energy (http://www.philly.com/philly/business/energy)

PUC approves Pa. American's $195M takeover of Scranton sewer system

Updated: OCTOBER 7, 2016 — 3:09 PM EDT

by **Andrew Maykuth**, STAFF WRITER @Maykuth (http://twitter.com/@Maykuth) | amaykuth@phillynews.com (mailto:amaykuth@phillynews.com)

State utility regulators on Thursday approved Pennsylvania American Water's $195 million acquisition of the Scranton Sewer Authority's system, despite concerns that the sale amounts to a bailout of the city's troubled sewer system on the backs of the company's existing customer base.

By a 4-1 vote, the Public Utility Commission approved the Scranton system's sale to Pennsylvania American, a subsidiary of American Water of Voorhees. Pennsylvania American serves more than 650,000 customers across the state, including residents in about three dozen municipalities in suburban Philadelphia.

Critics say Pennsylvania American's broader customer base will pick up Scranton's costs to comply with a 2013 consent decree that requires it to fix its combined sewer system, which allows untreated wastewater to flush into waterways during storm events. The compliance costs are estimated at $140 million over 25 years.

The proposal (http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2016-2537209) drew formal protests from the Pennsylvania Office of Consumer Advocate, the Pennsylvania Office of Small Business Advocate, and the PUC's

Bureau of Investigation and Enforcement. In August, two administrative law judges recommended that the acquisition be denied. (http://www.puc.state.pa.us/pcdocs/1469910.pdf)

PUC vice chairman Andrew G. Place, the sole dissenting commissioner, (http://www.puc.state.pa.us/pcdocs/1478698.pdf) said that Pennsylvania American's current customers will be called upon to absorb the transaction costs, and that the sale "is clearly inimical for the existing customer base."

But Commissioners Robert F. Powelson and David W. Sweet, in a joint motion (http://media.philly.com/documents/1478711+joint+motion+scanton+water.pdf), said it was premature to argue who would pick up the costs until Pennsylvania American filed a formal rate-increase request. "Disputes over the future rates are not ripe for our decision here this morning," they said.

The sale agreement provides for Scranton's 31,000 wastewater customers to continue paying current rates until 2018.

Pennsylvania American, which already provides water service in Scranton, estimated that customers (http://www.amwater.com/paaw/about-us/scranton-sewer-authority/page27154.html) would save $350 million over the next 30 years, or about $7,600 per household. The City of Scranton and the Borough of Dunmore will divide the $125 million in proceeds from the sale after $70 million in debt is retired.

The acquisition requires approval of the U.S. Environmental Protection Agency, the state Department of Environmental Protection, the Justice Department, and the federal court that approved the consent decree.

"Although some steps in the process are taking longer than originally anticipated, we remain confident that Pennsylvania American Water will receive all the necessary approvals, close the acquisition, and begin providing quality wastewater service to Scranton and Dunmore before the end of 2016," the company said in a statement Thursday.

Pennsylvania American is the largest water and wastewater service provider in the state. Its customers include residents of Yardley and Lower Makefield and Falls Townships in Bucks County, Coatesville, and 16 other municipalities in Chester County, and Bridgeport, Norristown and Royersford, and 13 townships in Montgomery County.

STATE LEGISLATION

Investor-owned utilities benefit as fair value legislation incentivises system sales

The adoption of fair market value legislation in a growing number of US states bodes well for investor-owned utilities looking to acquire distressed municipal water and wastewater systems.

A small but growing number of states in the US have adopted legislation that allows investor-owned utilities to recover through rates an independently appraised fair market value for acquired municipal water and wastewater systems.

This seeks to address the wide gap between what municipalities have traditionally looked to sell their systems for, and what prospective buyers have been willing to pay, and industry insiders agree that more transactions are expected to emerge as a result.

The most recent state to have adopted fair value legislation is Pennsylvania, which passed Act 12 in April of this year. While implementation of the appraisal process is still being ironed out, the legislation has already spawned tangible interest.

"It has contributed to a number of additional discussions we've had with municipal leaders, because they know that they can now get fair market value when they monetise their assets," American Water's president of regulated operations, Walter Lynch, told GWI this month. He added that the company's pending $156 million acquisition of a sewer system in McKeesport, PA was motivated by the passing of Act 12.

When purchasing a municipal system, investor-owned utilities (IoUs) have historically had to take as their rate base the original cost of the assets, less depreciation. Significantly, this has excluded contributed property: many water and wastewater systems consist of distribution and collection assets which have been paid for and installed by private developers before being transferred into public utility ownership. "[This contributed property] may be worth many millions of dollars, and may have cost many millions of dollars, but it comes onto the books as zero," Michael Klein, an attorney with Cozen O'Connor, told GWI.

The result is that many municipalities with significant contributed property have been disincentivised to sell under the original 'cost less depreciation' model, which could considerably undervalue their asset base. Likewise, IoUs cautious of generating goodwill have been unwilling to pay above book value, recognising that any premium is unlikely to be recovered through rates.

Fair market value legislation changes this by allowing municipalities and potential buyers to agree on a third-party appraisal of the value of the assets, including contributed property. This appraised value is then taken as the buyer's rate base, unless the purchase price is lower.

Ryan Wobbrock, a senior analyst at Moody's, explained that this change is credit-positive for publicly traded IoUs looking to acquire municipal systems. "What is most important from a credit perspective is clarity surrounding the recoverability of the investment, and this legislation definitely helps provide that," he told GWI.

The adoption of fair market value legislation highlights the fact that the regulatory environment in many states is becoming increasingly supportive of privatisation.

"If you look at the success we've had with the legislation that has come out in the last three years, you can see that there is much more support for IoUs," Lynch observed. "The need to invest in our infrastructure is recognised by the commissions and the legislators, and they are providing options for municipalities looking to sell."

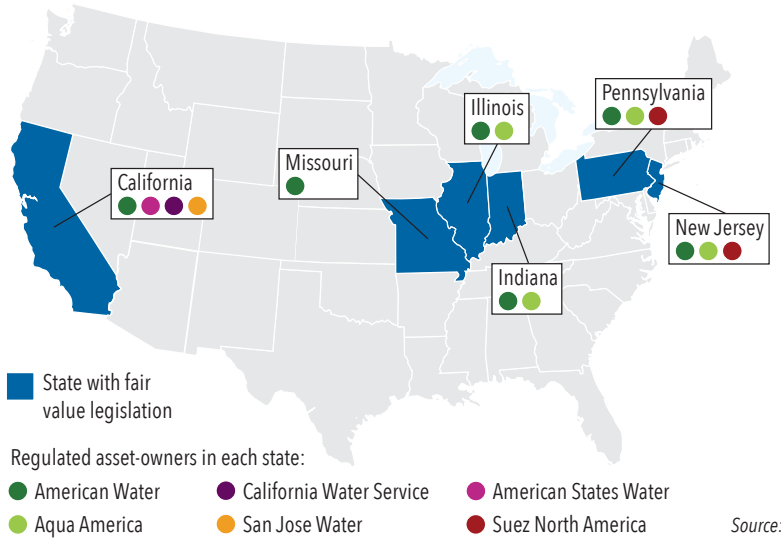
David Stanton, utilities president at Suez North America, explained that fair market value dovetails with legislation allowing single-tariff districts, and facilitates Suez's regulated strategy, which is focused on tuck-in acquisitions. "We're in the process of trying to design a consolidation model which is built around large single-tariff districts and growing rate bases, so that we can merge in these troubled systems and share the collective burden across a bigger rate base," Stanton told GWI.

Aqua America CEO Chris Franklin, meanwhile, continues to observe promising activity which he attributes to "dramatic" changes in the sector over the past two years. Alongside strained municipal budgets and political pressure on the efficacy of water systems, the increasingly supportive regulatory environment in the states in which Aqua operates is creating unprecedented opportunities.

"I've been in the business for 23 years, and I have never seen the level of activity in the municipal sector like there is today," Franklin observed to GWI. ■

FAIR VALUE MANOEUVRES

The six states with fair market value legislation are key battlegrounds for some of the country's major investor-owned utilities. Increased municipal appetite for system sales could intensify competition.



Source: GWI

INSIGHT

Investor-owned water firms boast sterling SDWA record

EPA data shows private utilities are practically absent from list of serious SDWA violators

An AWI analysis of EPA data on serious violators of the federal Safe Drinking Water Act has shown that privately owned and operated water utilities – especially large investor-owned companies – have a much cleaner record than public utilities when it comes to SDWA violations and fines.

The analysis, which included data on water systems with serious violations and least 500 customers over the past three years, showed that only 13 percent of facilities with current, serious SDWA violations are run exclusively by private companies. Only one of the 1,369 serious violators in the list is a large, investor-owned water company.

The EPA defines a serious violator as "a public water system with unresolved serious, multiple, and/or continuing violations" as defined by the agency's enforcement response policy. When the agency responds to violations, it does so with formal enforcement actions (administrative orders, consent decrees or litigation) or informal enforcement actions (verbal or written notices of noncompliance). Formal actions often carry penalties such as hefty fees or work agreements, but informal actions do not.

The one investor-owned water system in current, serious violation of the SDWA is Ohio American Water - Ashtabula. While the system has incurred a number of informal enforcement actions (Ohio American Water has had 11 filed against it), it has not faced formal enforcement or fines at any point in the past five years.

The EPA can promote water systems to the status of serious violator for a number of reasons, but many serious violators become classified as such because minor issues go uncorrected. A lack of formal enforcement actions for a serious violator typically means that the entity has been reclassified from a non-serious violator because of repeated, minor issues that are not serious enough to warrant lawsuits or fines.

Major investor-owned water companies are completely absent from the EPA's list of current serious violators with the exception of the system mentioned above, and that system is only considered to be a serious violator because of repeated, minor infractions. That near-perfect track record is in stark contrast to small private systems not owned by investors (such as community water associations or small bussinesses) and public water companies.

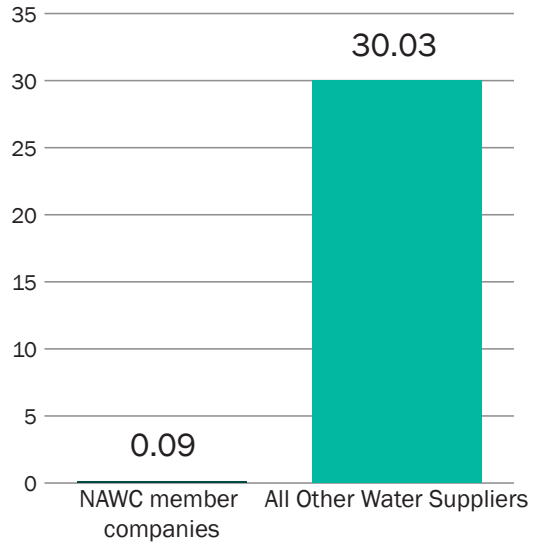
Of the 1,369 serious violators examined, 53 percent are owned by local agencies, states or the federal government. The overwhelming majority of those (717 of the 728 strictly public facilities) are owned by states or municipalities. Thirty-four percent of the violating systems are owned and/or operated by a mix of public and private entities. Several types of systems fall under the mixed private/public category, which may include state university water plants or military base water networks.

The small private water systems not managed by major private utilities included groups such as incorporated subdivisions and local water management associations. They also included companies such as property management firms whose day-to-day business involves collecting, transporting or treating water or wastewater. Compared to the government-run systems, these companies were less likely to be in violation of the SDWA. Major investor-owned companies have not been subject to any of the 70 formal enforcement actions issued against the private sector over the past five years.

Government-run water systems fared the worst of all the management types with 728 systems in serious violation of the SDWA. Over the past five years, the EPA has issued 244 formal enforcement actions to state and local governments for serious infractions, and the federal government has had one.

Because the agency's SDWA database is in beta form, some entries for small facilities are incomplete or missing. Entries for facilities serving fewer than 500 people were omitted from

SDWA ENFORCEMENT ACTIONS PER MILLION CUSTOMERS (FY2001-2011)



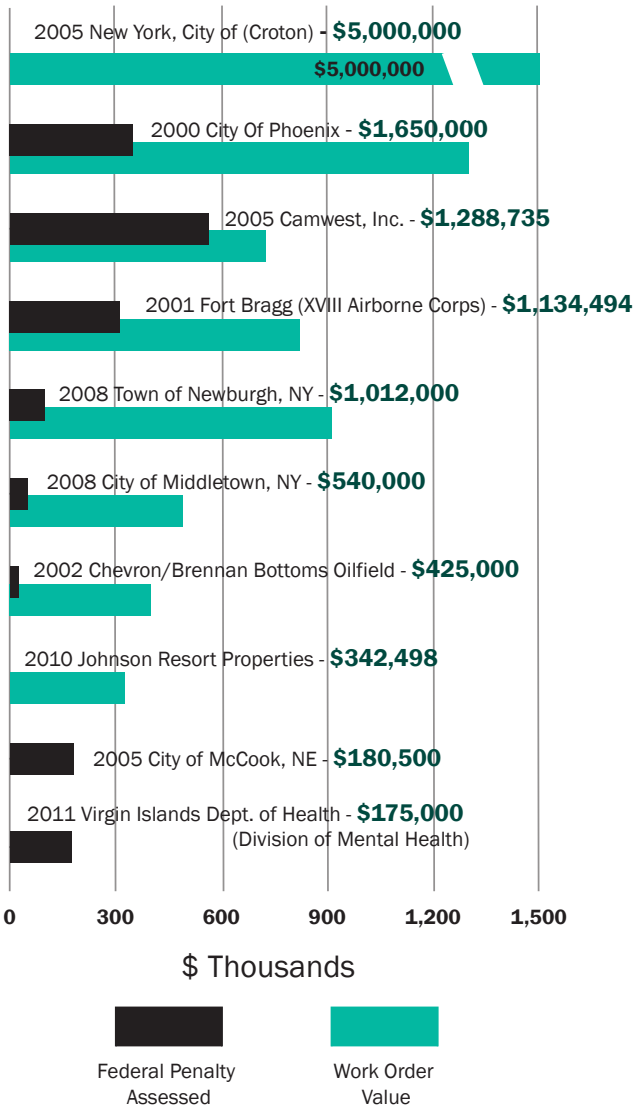
Source: EPA and AWI research

AWI's research to maintain accuracy. The EPA updates its information every quarter. AWI assembled its database by querying the EPA's data for each type of management entity and combining the results. The query result for the total number of entries is slightly different when no management type is specified, indicating that there are some entries for which management data are incomplete or missing. The EPA acknowledges that its data may be incomplete.

When it comes to staying in compliance with the SDWA, major private utilities have long proven to have fewer violations and fines. In addition to SDWA serious violator data, AWI also collected and analyzed data on all completed SDWA enforcement actions since FY2001. According to that list, investor-owned utilities have been far less likely to face enforcement, fines or work orders.

In fact, no major investor-owned water company has been fined by the EPA for SDWA violations, according to EPA records. SDWA enforcements have cost private companies more than

10 LARGEST SDWA SETTLEMENTS (2001-2011)



Source: EPA

EPA data reporting rules inflate one state's violation numbers

On paper, Mississippi is a chronic violator of the Safe Drinking Water Act. The state has 709 facilities with serious violations on record for the past three years – 52 percent of all the SDWA's serious violators nationwide for that span of time. In reality, however, the numbers say little about the state's water standards and a great deal about EPA requirements for water data reporting.

Mississippi's numbers have been hugely inflated because of the way the EPA accepts data. The EPA must qualify states to submit data, and the agency will not accept state data if it is not confident in the reports. The 2000 Revised Radionuclides Rule introduced new SDWA data and testing requirements, and Mississippi's state labs have been catching up since losing their testing certification in 2008.

"Mississippi state law requires that systems pay the state for analysis of their radiological samples," the EPA wrote. "However, MS Department of Health's (DOH) laboratory lost its certification for radiological analyses in 2008 and was unable to perform the required analyses; thus, the results were not reported to EPA."

Rescheduled meetings with the EPA have forced back Mississippi's certification process, which has led to a lack of acceptable radionuclide data from the state. Failure to report data is considered a reporting violation even if the EPA knows a water system has not been agency qualified.

Over time, minor SDWA violations become re-listed as serious if they are not resolved. Mississippi is in serious non-compliance with EPA mandates because it cannot report its data, and it cannot report its data until the EPA grants certification. Because of the impasse, the state has been subject to more than 29,000 informal enforcement actions in the past five years. Those informal actions, however, are often simple notices of noncompliance and do not carry fines or work orders.

Liz Charlot, communications director for the Mississippi State Department of Health, said the state's SDWA record does not reflect the quality of its drinking water.

"Yes, we do test. Yes, we do report the information to our water supplies. At this point, we have no certification," Charlot said. "We're kind of at the mercy of the EPA."

The EPA was scheduled to meet with state officials in July, but that meeting has been pushed back to November, Charlot said.

However, not all the state's violations are due to missing reports. The state has faced 40 formal SDWA enforcement actions over the past five years, indicating that its systems have their share of SDWA-related problems.

TOP TEN SERIOUS VIOLATORS (FORMAL ACTIONS)

Facility Name	Pop. Served	Informal Enforcement Actions	Formal Enforcement Actions	Management Entity
Sequoyah State Park Lodge, OK	1,030	50	19	State or Local Government
Tipton, OK	916	47	13	State or Local Government
Cedro Arriba, PR	12,356	1	11	State or Local Government
Cubuy Maizales, PR	616	1	10	State or Local Government
Pittsburg Co. RWD #14, OK	1,150	44	9	State or Local Government
Riviera West Mutual Water Co., CA	550	0	7	Private
Isabela, PR	68,820	3	7	State or Local Government
Metropolitano, PR	1,339,328	2	7	State or Local Government
Caguas Norte, PR	158,064	9	6	State or Local Government
Gurabo Urbano, PR	35,608	7	6	State or Local Government

Source : EPA

$19 million since FY2001, and major private firms such as American Water and United Water have not a paid a cent of that amount. Though no comprehensive data exist regarding private water utilities, the National Association of Water Companies (NAWC) represents about 150 large water firms across the U.S. AWI assembled a database of all SDWA enforcement actions since FY2001 and searched for each NAWC member to see if those companies had been censured by the EPA. Only six NAWC members with a total of 13 enforcement actions appeared in the list of roughly 8,000 entries. Eleven subsidiaries of American Water along with Aqua Pennsylvania and Aquarion Water Company of Sea Cliff have all been the subject of official SDWA-related enforcement, but none of them incurred any fines as a result.

NAWC Executive Director Michael Deane attributes that near-perfect record to several key differences between NAWC members and their counterparts in other sectors.

"Investor-owned water companies often have access to experience and expertise across multiple utility operations within their company," Deane said, adding that private firms' knowledge and ability to share information quickly "can make the difference between perfect compliance and an unfortunate violation."

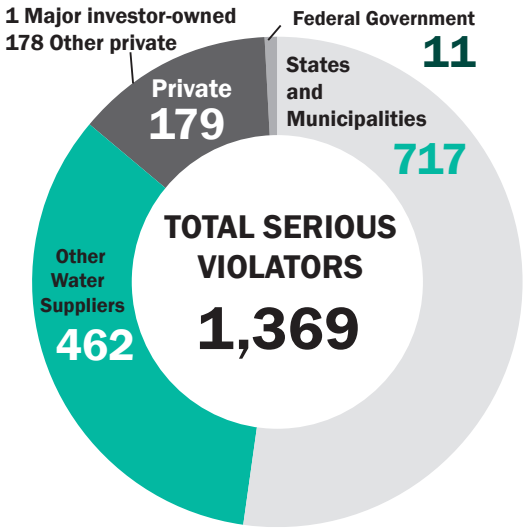
Figures vary on the number of Americans served by investor-owned water companies, but the NAWC estimates that up to 73 million people are served by the private sector and that about 39 million of those customers are served by investor-owned companies. AWI's own estimate of roughly 46 million is based on the combined numbers of 15 of the largest investor-owned utlities.

This tendency to stay within SDWA regulations has potentially saved water investors millions over the years. Most of the serious violators did not receive formal enforcement actions, but such measures can be costly when the EPA decides to take them. In 1999, the EPA issued a consent decree under the SDWA and Clean Water Act to BP Exploration (Alaska) Inc. that cost the company $22 million. Phoenix faced a $350,000 fee and a $1.3 million work agreement in 2000. The most costly settlement due strictly to the SDWA was a 2005 case against Croton, N.Y. that cost the $5 million. The agency has taken 344 formal enforcement actions against serious SDWA violators in the last five years.

On the whole, publicly-owned utilities are responsible for many more SDWA violations and incur more fines. However, that is due mostly to the fact that the U.S. has so many more public water systems than private ones. Serious violators are clustered in states and U.S. territories with many ongoing water projects. Puerto Rico has 62 facilities with serious violations, which is largely due to the island's hundreds of off-the-grid water systems in rural areas. Florida is home to 25 serious violators, and Louisiana has 26. Texas has the second highest number of violators at 97. The state with the highest number of facilities with serious SDWA violations is Mississippi, but that state's record has been heavily skewed by data reporting issues (see story on p.16).

The facilities with the highest number of formal violations are not always the ones that have received the most warnings from the EPA. The Town of Aberdeen, Miss., has had 231 informal actions taken against it over the past five years, but the EPA has never brought the municipality to court. The Riviera West Mutual Water Company in Kelseyville, Calif., meanwhile, has been the target of seven formal actions and zero informal ones.

SYSTEMS WITH SERIOUS SDWA VIOLATIONS BY OWNER/OPERATOR TYPE



Source : EPA

WATER ONLINE

News | June 9, 2015

American Water Receives 29 National Awards For Excellence In Water Quality

Company Recognized with Two Presidents Awards

American Water Works Company, Inc, the largest publicly traded U.S. water and wastewater utility company, is proud to announce the achievement of 29 Partnership for Safe Water awards. Two plants are receiving a Presidents Award, one plant is receiving a Phase III Directors Award of Recognition, one plant is receiving an award for maintaining Phase III certification for five years, 23 plants are being presented with the Phase III Directors Award status for 15 years, and two systems are being presented with Phase III Directors Award for Distribution. The awards were presented during the 2015 American Water Works Association Annual Conference in Anaheim, Calif.

Nationally, just over 400 surface water treatment plants are part of U.S. Environmental Protection Agency (EPA) Partnership for Safe Water Program, a voluntary effort that is designed to increase protection against microbial contamination through treatment optimization. American Water accounts for about 20 percent of the participating plants nationwide, and has received more Partnership for Safe Water awards than any other utility nationwide. As a member of the Partnership for Safe Water, American Water demonstrates its commitment to improve the quality of drinking water delivered to customers by optimizing system operations.

“Environmental leadership is one of American Water's core values, and having twenty nine of our facilities recognized by the Partnership for Safe Water is very meaningful for us,” said Susan Story, President and Chief Executive Officer. “We hold ourselves to the highest standards in delivering clean, safe, high-quality drinking water to the people we serve, and this national recognition is a true testament to our employees’ expertise, dedication to excellence and commitment to protecting public health.”

Pennsylvania American Water’s Clarion Water Treatment Plant and Norristown Water Treatment Plant have received the elite Presidents Award recognition. Phase IV goals are the highest possible level of performance that can be achieved in the four-phase program. The Presidents’ Award recognizes achieving Phase IV’s very stringent individual filter performance goals for turbidity. Pennsylvania American Water’s facilities have been participating in the Partnership since 1996. Pennsylvania American Water now has three surface water treatment plants that have received the Phase IV Presidents Award.

American Water’s Contract Services Group was recognized with its first Phase III Directors Award of Recognition for its North Brunswick Water Treatment Plant, N.J. American Water accounts for approximately 30 percent of the plants receiving the program's Phase III Director Award.

West Virginia American Water's Kanawha Valley Water Treatment Plant was recognized for maintaining the Phase III Directors Award status for five years. With a total of 64 surface water treatment plants recognized, American Water accounts for about one-third of all plants that have received the Five-Year Phase III award nationwide.

The following American Water treatment plants were recognized for maintaining the Phase III Directors Award status for 15 years:

Illinois American Water

- Pontiac Water Treatment Plant
- Streator Water Treatment Plant

New Jersey American Water

- Delaware River Regional Water Treatment Plant
- Raritan-Millstone Water Treatment Plant

Pennsylvania American Water

- Bangor Water Treatment Plant
- Brownell Water Treatment Plant
- Butler Water Treatment Plant
- Ceasetown Water Treatment Plant
- EH Aldrich Water Treatment Plant
- Ellwood Water Treatment Plant
- Fallbrook Water Treatment Plant
- Forest City Water Treatment Plant
- Gerald C. Smith Water Treatment Plant (Hershey)
- Hays Mine Water Treatment Plant
- Indiana Water Treatment Plant (Two Lick Creek)
- Kittanning Water Treatment Plant
- Milton Water Treatment Plant
- Montrose Water Treatment Plant
- Nesbitt Water Treatment Plant
- New Castle Water Treatment Plant
- Philipsburg Water Treatment Plant
- Silver Spring Water Treatment Plant

Tennessee American Water

- Citico Water Treatment Plant

American Water accounts for approximately 45 percent of the plants receiving the Fifteen-Year Phase III Award.

American Water's Military Services Group was recognized with two Phase III Directors Awards for Distribution for the water distribution systems it manages for Fort Sill, Okla. and Fort Hood, Tex.

"We're tremendously proud of our Fort Hood and Fort Sill teams for their unwavering efforts to deliver superior quality drinking water to the servicemen and -women at those bases," said Military Services Group President Todd Duerr. "The Partnership for Safe Water Directors Award is a difficult-to-achieve, well-deserved honor, and is

another example of American Water demonstrating to the government how safe, compliant and reliable water operations are implemented through Utilities Privatization.

About American Water

Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs 6,400 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. For more information, visit www.amwater.com

SOURCE: American Water

IMPACT 12/21/2015 03:41 pm ET | Updated Dec 21, 2015

There's A Secret War Being Waged Over Your Drinking Water

More and more municipalities are considering turning over their public water systems to private companies. Here's what that means.

By Joseph Erbentraut

CREDIT: JUSTIN SULLIVAN/GETTY IMAGES

If the current catastrophe in Flint, Michigan, teaches us anything, it's that the source of our drinking water is critically important — if almost always overlooked, until something goes very, very wrong.

When it comes to the question of how we keep our water safe, the details get a little murkier. A battle is underway between private companies attempting to step in to take over ownership or management of public water systems in the U.S. and advocates who are blocking their efforts to do so.

Critics of privatization argue that private companies mean dramatic rate hikes for customers, while proponents argue that price increases are inevitable as the nation's water systems are desperately in need of new investment to ensure continued safety.

Given the financial state many municipalities find themselves in, the lure of privatization is clear — and legislation already passed in New Jersey and a similar bill proposed this month in Wisconsin make it easier for communities to sign on with a private partner.

So, who can we trust with our nation's water? The Huffington Post recently spoke with leaders on two sides of the issue to get their take on what water privatization could mean for the community you live in — and why it all matters.

Lauren DeRusha, water campaign senior organizer, and Kara Kaufman, press officer, Corporate Accountability International:

The Huffington Post: How common is what is being proposed in Wisconsin currently? Have other states already done this or are there efforts in the works for them to do so?

LD: The short answer is that what's happening in Wisconsin lately is an example in a trend of the private water industry attempting to use policy as one of several avenues for eliminating democratic processes when it comes to the management of water. We've seen a really big increase in the number of privatized water systems in New Jersey and that is in part due to the lack of public input that's caused by the passage of the bill. It's all aimed at making it easier for the private water industry to get these contracts. The industry knows how unpopular privatization is and how difficult it would be to get these kinds of contracts they want if this process was happening in the light of democracy and there are are all sorts of different ways they are interfering with that at different levels of policy.

The top line is that our public water systems, which are such an important backbone of our society and which we've counted on for our public health and relative equality for a long time in the U.S., used to be very well-funded by the federal government. In the '80s, that funding all but dried up, so what we have now is a country full of water systems that are badly in need of infrastructure repair and are very badly underfunded. What cities have access to now is a very small pool of funding, and the private industry is trying to chip away at what little public funding is left and open it up to have access to it or limit the funding for public institutions unless they partner with the industry. This makes it even harder for them to get the funding they need.

KK: We have seen these corporations and their lobbyists attempting to create legislation and policy at every level, whether it be the national, state or local level, that will favor the private industry over public management. It's imperative that our water systems are managed publicly in part because they are a unique human right and should be managed as such. None of us can live without water and when these corporations come in what we often see is a profit motive that takes precedent over public access. We often see really disastrous results of these contracts.

HP: Why do you think this issue isn't on many peoples' radars? It can be difficult to track down unbiased information on water privatization.

LD: What's great is that most public utilities in the U.S. are doing a fabulous job and you wouldn't necessarily hear too much about that in part because public water utilities don't need to market how well they are doing, whereas we will hear a lot of propaganda and talk where the private industry tries to pose itself as a solution to the crisis of funding our public water systems are facing right now. But what we've seen across the board in every country, in every state and city is that the private water industry fails to fulfill these promises and does not invest in public infrastructure.

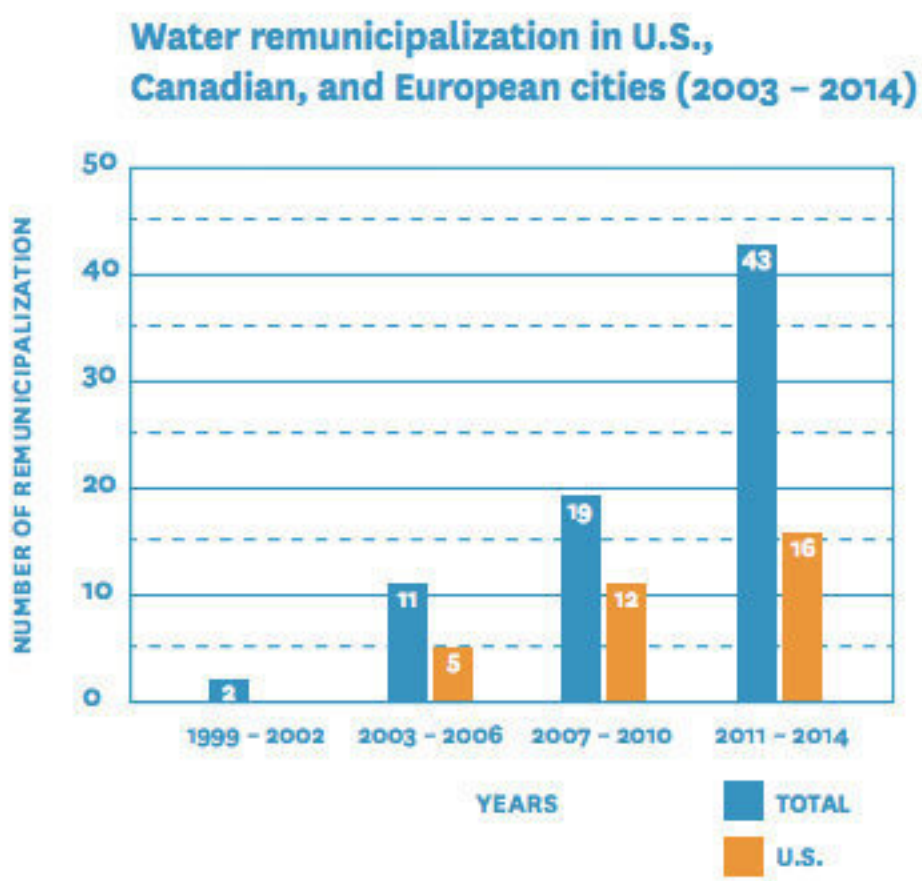
KK: All too often these deals occur completely outside of public scrutiny, outside the scope of public discourse as the private water industry conducts lobbying activities. It is an underreported issue.

HP: So how, then, do you make people sit up and care about this?

LD: This is something people should get activated around because it effects everyone. In

Hoboken, for example, they have a private water contract with Suez that has been so badly failing to invest in needed infrastructure and make repairs that they just had two devastating water main breaks right on top of each other. Those are the moments when people are really forced to realize and understand how much this can affect people in their everyday lives. The thing people have to realize is that we can't take our water for granted. When corporations come in, we see the kind of abuses that affect people in their everyday lives and can affect their ability to afford their water bill. That's something everybody should be extremely cognizant of and why people should make sure we're promoting and protected our publicly managed systems.

KK: We are seeing a trend across the U.S. of cities taking back public control of previously privatized water systems, which we call re-municipalization. There's a clear uptick in the frequency of this, and Atlanta is a well-known example. So that's the flip side of the coin. As the private water industry increasingly tries to get its foot in the door, people across the country are mobilizing successfully to ensure their public water system remains in public hands.



CREDIT: CORPORATE ACCOUNTABILITY INTERNATIONAL

Examples of water systems that are being "re-municipalized" are on the rise, the Corporate Accountability International pointed out in its 2014 "Troubled Waters" report.

Michael Deane, executive director, National Association of Water Companies:

HP: What does the average person need to know and understand about private water that you think is often misconstrued?

MD: It's very important that people understand water is not private, unless you buy it in a bottle, I guess. Water is essentially a public good. We are the agents of public policy, and typically states own or have the rights to the water and we're talking about the system that treats and delivers it. It's not like any of our companies own the molecule of water in a legal context.

HP: Critics of water privatization say supporters like you are operating largely outside of the public eye to get these contracts — how do you respond to that sort of claim?

MD: This all depends on the particular city or structure we're looking at. Every state has a public utility commission with a very transparent and publicly inclusive process for deals like these. Utilities look at these and determine whether they're prudent or not and determines what customer rate structure is necessary to make the investments the system needs. Nothing is behind closed doors. For any bureaucratic or public policy process, there will be some meetings not open to the public but there is complete access to extensive public hearings. There are complex matters that come up in certain places along the process where hired experts and elected officials will have negotiations with potential partners and maybe that can be deemed as suspicious at times and misused by those who are opposed to the process. But I don't see this particularly as a big problem. Whatever the procurement process is required in the state or community where it's happening is the process that is followed.

HP: Critics of this also say rates have increased and many places have re-municipalized because they were unhappy with how the systems were managed. Why do you think that is happening to the degree it is?

MD: There are so many factors that go into rates and you can't compare two cities that are 10 miles apart. Until you look at what the true cost of service for that particular system needs to be to ensure that all the requirements and customer preferences are being met and the system is being adequately maintained, rates mean nothing.

There are lots of reasons a city might want to not continue a contract. On the more global scale, look at Paris, where the core center city chose a few years ago not to continue its

contract. You can look at that as a success. In that case, a company spent more than 100 years making investments, replacing pipes and getting improved treatment systems in place. Now there's a pretty good system in place, so the city decides they can operate them now. There are all sorts of reasons for it and I can't judge why a particular community would want to do that, but I think you don't see a lot of it.

CREDIT: BETSY BLANE/ASSOCIATED PRESS

Treated wastewater from the Roberto R. Bustamante plant in El Paso, shown here in this Feb. 13, 2015, photo.

HP: This issue can obviously get pretty wonky, why is this important for people to care and learn about?

MD: What's at stake is ensuring this country continues to vet robust, efficient and effective water treatment systems and wastewater collection. Fortunately, compared to large parts of the world, we have done that thanks to a lot of work and investment from a lot of people including the EPA, state regulatory agencies and public health utilities. We've made great progress but face significant problems going forward, continuing to meet regulatory requirements and mitigate public health risks.

A lot of investments were made in these systems starting in the '70s with the Clean Water Act and we're getting to the end of those investments' design lives. Those pipes have been in the ground for many years, some of them are great and some of them are leaking all over the place. It's incumbent on all of us to be as efficient as possible in addressing this and having the full spectrum of solutions available to communities across the country. The challenges we're facing are not getting easier, they're getting more complex and getting more expensive. We need to invest in our deteriorating infrastructure and if a public-private partnership or a sale to a management company is the most efficient way of doing that, that option should be fully available to communities deciding what to do.

Across the board, public and private utilities and municipal partners are realizing they have to work much closer together. It's not public vs. private. Every community has something they need to address and in some cases they can do it on their own and in some cases they'll sell to a private company and in other situations a private company can do just part of it.

HP: Where do you see the common ground on this, between opponents to private water and groups like yours?

MD: Water is the hidden or silent service. People always turn on the tap and flush the toilet and it usually works just fine. We've all done a really good job delivering this, but at the same time, we've also done a really good job of hiding how it works from people — that you don't need to know all the details of this as long as you're getting access to safe water and the wastewater is being taken away and not polluting local streams and lakes.

Now, people need to know. Water doesn't magically show up in your tap or magically disappear down the toilet. We need to do a much better job educating about that. Their forefathers and mothers put these systems in place and the communities before invested in them. Now it's our turn to invest. It gets down to the true cost of water because the easiest way to keep water cheap is to let your system fall apart. If a community enters into a contract with a private company, part of the solution to the problem is making investments improving the system, and that costs money. The reason rates go up isn't because of the private company but it's because of the community that's chosen to do something about their deteriorating system.

Interviews have been edited for brevity and clarity.

Panel Readings IV: Operations & Maintenance Contracting

1. New IRS Rules Enable Longer Term Privatization Management Contracts
2. Water Privatization in Atlanta, Georgia: A Cautionary Tale
3. Public Citizen: A Backgrounder on United Water's Atlanta Fiasco
4. The Truth About Private Water in Atlanta, GA
5. Milwaukee's Sewer System Contract: NCPP Award
6. The Truth About Private Water in Milwaukee
7. Public Citizen: Stockton, California
8. Reason: The Facts About Wastewater, Stormwater and Water Contract Management In the City of Stockton
9. Stockton, CA Regains Control of Its Water
10. Comparing the Atlanta and Indianapolis Public Works Partnerships: Revisited
11. Atlanta-Fulton County Water Resources Commission And USFilter Partnership Wins Best Operated Surface Water Treatment Facility In Georgia
12. Public Citizen: New Orleans Privatization Water Bids Defeated
13. Summary of Nassau County Sewer System Operation and Maintenance Agreement

WATER ONLINE

New IRS Rules Enable Longer Term Privatization Management Contracts

by: Daniel Kucera

One form of privatization of municipal-owned water and wastewater systems is "contractual" privatization. This is privatization of an operation or function of a water or wastewater system, without acquiring the assets, pursuant to an ongoing contract.

Although these arrangements may take a variety of forms, perhaps the more typical is a management agreement under which a privatizer will manage and operate all or a portion of a utility system owned by a local government.

Where a municipality has issued tax-exempt bonds for construction of its water or wastewater system, contract privatization has been significantly limited by certain Internal Revenue Service rules. If these rules are not followed, the bonds could be deemed "private activity" bonds and, consequently, could lose their tax-exempt status.

Under these rules, to be a qualified management contract which would avoid such consequences, the arrangement would have to meet several criteria, including that the term of the contract must not exceed **flve** years and the contract must be cancelable by the city after three years without cause or penalty. In addition, at least 50 percent of the fee paid the manager must be a fixed periodic fee, and no portion of the fee paid the manager can be based upon a percentage of net income from operations.

These rules have had a limiting effect on privatization management contracts where municipal bonds have been outstanding regarding the system being managed. For example, a privatizer may successfully manage a system for **five** years, and then lose the project when the contract is re-bid.

The IRS now has liberalized its rules by creating a "safe harbor" for public utility privatization management contracts. New Revenue Procedure 97-13 allows management contracts up to **20** years if at least 80 percent of the compensation is based on a periodic fixed fee. If the fixed fee portion is 50 percent to 80 percent, the term must not exceed five years, with the three year cancellation provision.

In addition, where the fee is at least 80 percent fixed, the new rule permits a one-time incentive award during the term of the contract, under which compensation automatically increases when a gross revenue target or expense target is attained, if that award is equal to a single, stated dollar amount. Under no circumstances may compensation be based on a share of net profits from operations of the system. The balance of a management fee which is not fixed must be based on volume, gross revenues or something other than net income.

The IRS defines a periodic fixed fee as a stated dollar amount for a specified period of time. For example, a stated dollar amount per month is a periodic fixed fee. The stated dollar amount may automatically increase per a specified, objective external standard, such as the CPI. However, it cannot be linked to the output or efficiency of the system.

million for additional expenditures. Atlanta's Water Commissioner refused to approve the payments, but in a bizarre twist, letters authorizing the payments showed up with the signature of former Mayor Bill Campbell. Campbell in turn denied he had ever signed the documents. The city attorney ruled the authorizations invalid, and United Water eventually backed away from pressing the claim.

•United Water billed the city an extra $37.6 million for additional service authorizations and capital repair and maintenance costs, and the city paid nearly $16 million of those costs. Pay was withheld for the rest—$21.7 million—however, because the work either wasn't complete or hadn't even been started. United Water was billing the city for work it didn't do.

•The city found that United Water was improperly billing the city. For instance, routine maintenance was billed to the city as "capital repairs." And the city discovered that United Water personnel, on Atlanta's dime, were working on United Water projects outside of Atlanta, including efforts by the company to land contracts in other cities.

•The city repeatedly complained that United Water was uncooperative and less than forthcoming when the city requested information from the company. Trust in the company eroded to the point that the city spent $1 million to hire inspectors to verify United Water's reports.

•Even after slashing the workforce to dangerously low levels, failing to fulfill maintenance and repair duties called for in the contract and successfully billing the city for millions more than the annual contract fee, the much-vaunted savings from privatization didn't materialize, and the promise that a rate hike could be averted through savings turned out to be empty.

The promoters of privatization were absolutely right when they claimed the Atlanta contract would be a model for the privatization of water services. In that model, as so powerfully illustrated in Atlanta, the company makes promises it knows it can't keep, with the expectation that the city can simply be billed for additional charges later. While the extra charges are designed to boost the revenue side of the equation, the company attempts to dramatically cut its own costs by reducing the workforce to inadequate levels and failing to perform maintenance and repairs. The company is emboldened to pursue such an anti-consumer strategy because it has secured a long-term contract designed to hold consumers captive to the company's monopoly for decades.

Atlanta managed to get out, and now faces the daunting task of taking back its water system and performing needed upgrades that were neglected during United Water's tenure. Supporters of privatization, meanwhile, in a desperate if audacious stab at spin control, claim that the Atlanta lesson is still a model for other communities considering privatization.

"Just do everything completely the opposite of what Atlanta did," suggested one privatization promoter.

He's absolutely right. Whereas Atlanta signed its public water system over to a private company, other cities should do completely the opposite, and keep public resources under public control.

No silver bullet

Water privatization in Atlanta, Georgia – a cautionary tale

Frank Koller, CBC Radio | Feb. 5, 2003

Atlanta, Georgia is one of the largest cities in the United States. When it transferred the management of its municipal water system to the private firm United Water, many saw it as a beginning of a new trend. Supporters believed Atlanta would lead the way for many more privatized water utilities in the U.S.

No one believes that any more.

United Water, a wholly owned subsidiary of the water giant Suez, is no longer running the show, and privatization has left a sour taste in many people's mouths.

Listen to Frank Koller's report
Send your thoughts about this report

In the distance loom the skyscrapers of downtown Atlanta, the economic and political powerhouse of the deep south. Just across Howell Mill Rd. sits a big white tower with the words "Atlanta Water System" in black letters across the top.

Four years ago, the City of Atlanta turned over day-to-day operations of its water system to United Water, the American subsidiary of the Paris-based water corporation Suez. The 20-year contract was worth $420 million US to United Water.

But two weeks ago, Atlanta's Mayor Shirley Franklin called a press conference to announce that the deal was dead.

"I stand here today with Mr. Michael Chesser, chairman and CEO of United Water Services, to announce that the City of Atlanta and United Water have jointly agreed to dissolve the contract under which United Water has run the city's water system since January 1, 1999."

The mayor said Atlanta will once again run the water system itself, safely.

"I want to reassure all of Atlanta that your water system is in good hands," she said.

"The water department had been a poster child for government inefficiency, where politicians would dump their friends and relatives when they needed a job."

When United Water won the water contract four years ago, many in the city government didn't think the public-run water system was in "good hands." Lee Morris, a lawyer and accountant, sat on Atlanta's City Council when the deal was made.

"I personally agreed with the concept of turning it over to a private operator because the water department had been a poster child for government inefficiency, where politicians would dump their friends and relatives when they needed a job," says Morris. "It was not a well-run department and it was a very costly department."

Felicia Moore, an Atlanta city councillor

Now, with the deal cancelled, it's hard to find anyone in Atlanta who thinks privatizing the water system was a good idea. And many people, like Morris, just shake their heads that so much has gone wrong.

"It's a cautionary tale because quality has been jeopardized," says Morris. "In my old councillor district particularly there have been a dozen or more instances where people had brown water running through their faucets and advisories to boil it before you drink it. In a large world-class city like Atlanta, that just should not happen. It might happen in third-world countries, but it should not happen in Atlanta."

With three kids living at home, Lamar Miller's washing machine goes through a lot of water. Miller has lived in the comfortable middle-class neighbourhood of Buckhead for decades.

Over the years, she's had water problems from time to time, but nothing like last summer.

"When you turn on the water, you expect to have water come out of your faucet," she says. "This summer we had, multiple times, when you would turn on the faucet and nothing would happen, sometimes for a couple hours, sometimes for a couple days. And then when the water comes back, it looks like dirty creek water. It clogs up all the filters in your refrigerator, it destroys your laundry, and there's no warning when you're going to get these discolourations."

One day, Miller loaded more than a dozen of her husband's white dress shirts into the washing machine. Thirty minutes later, they weren't white.

"During the summer when the water pressure was going down we were getting a lot so you could actually see it coming out of the faucet," she says. "You're hair would start to get orangey-red highlights in it, like you had Irish blood in you."

"The City cannot wash its hands of the responsibility of supplying water."

Last summer, a severe drought forced Atlantans to follow strict water rationing. However, when a fire hydrant at the foot of Walda Lavroff's driveway broke a leak like a gusher, Lavroff says it took 10 days of constant phone calls to United Water to get it fixed. By then, pavement was washing away.

Walda Lavroff beside the fire hydrant that broke a leak. It took 10 days for the water company to come and fix it despite the fact that residents were asked to follow strict water rationing due to a drought

On other occasions, she received notices from United Water to boil her water, days after breaks in water lines created health concerns. Lavroff says she didn't have these problems when the City ran the water system.

"When water pipes and valves had broken in this neighbourhood, there was a boil advisory out for water and we didn't get the advisory until a day or two later," she says. "(This) is serious business because if the water is not safe to use as they said for baby formula or for elderly, ill people and so on, we should be notified at once not a day or two later. The City cannot wash its hands of the responsibility of supplying water."

Despite repeated requests, United Water wouldn't talk to me when I was in Atlanta just before the City killed the water contract. The company had said publicly that the City of Atlanta hid the true health of the pipes from contract bidders. The company complained it only realized after winning the deal how bad things were when brown water started flowing.

Howard Shook, who represents Buckhead on Atlanta City Council, says he was drowning in complaints.

"I spend way too much of my time acting as a grief counsellor for bereaved United Water customers," he says. "We have raised property taxes 50 per cent, and we have done all sorts of things poorly that have aggravated the citizens, but I have never run into anything that has aggravated my constituents more than the inability to provide clean tap water every time they reach out and turn that tap."

Atlanta's city government was also disappointed with United Water because the company failed to deliver on promises to save the City money. A recent audit of United Water's performance ordered by the mayor revealed uncollected bills, demands for even more money from the City, and delayed repairs.

Clair Muller

Clair Muller, who chairs the City's Utility Commission, says those problems were all supposed to end when the private company took over the system.

"It was said at the time that we would save $20 million per year of the 20 years," says Muller. "Even people who believed in this privatization buzz word were calling me saying even the city can't be doing that bad a job that you'd save $20 million. And indeed they were right, we've saved about eight."

When Atlanta decided to privatize its water system, the world's water management companies flocked to Georgia. This was the largest water privatization deal yet in the United States. Winning it was seen as a toehold into a huge untapped market. Competition was fierce.

Five major bidders spent millions on public relations campaigns, lobbyists and lawyers courting City politicians. In the end, United Water, owned by Paris-based Suez, won with the lowest bid.

Lee Morris, then chair of the Utilities Commission, said he and his other elected colleagues knew the Atlanta contract was a highly valued prize.

"We certainly heard that it was important to all of these large companies, that this was going to be the first one, the toe hold if you will, and it was important for them to land it even if it meant they did not necessarily make a lot of money or maybe even any money," says Morris. "So certainly it took deep pockets."

A new house being contructed in what's often called the fastest growing big city in the U.S. – Atlanta, Ga.

Atlanta is often called the fastest growing big city in the U.S. But it is still a very old city, and its water pipes are old and leaky.

Harold Cunliffe, a major real estate developer in Atlanta and chair of the City's Urban Design Committee, believes United Water shouldn't be blamed for all the current problems. He says the City made it very hard for United Water to run the system the way the company wanted.

"United Water was basically handicapped when they came into thie arrangement with the City of Atlanta."

"I believe that United Water was basically handicapped when they came into thie arrangement with the City of Atlanta," says Cunliffe. "All the contractors that bid on this were required to have a certain minority participation content and to hire city workers, so it is unfair to say that this is an unfettered privatization."

Cunliffe believes Atlanta should have given United Water a free hand, not kill the contract. He has no time for arguments that water is too important to be in private hands.

"I can think of a lot of other things that are more important than water, like food and housing, and we've managed over the years to privatize those two necessities of life," says Cunliffe. "Nevertheless, they're operated perfectly well in a free entrepreneurial system."

Atlanta will soon resume running a downtown water treatment plant. There were fears of multi-million dollar lawsuits lasting for years if the contract was killed. But in the end, the City and United Water say they parted on friendly terms.

Standing with the mayor, company CEO Michael Chesser said he was disappointed.

"I'm convinced that if we were to start over today, with the spirit of partnership that we have and what we've learned, we would be able to craft a successful process, so we wish the city all the best of luck."

"My inner conservative no longer worships at the altar of privatization."

One thing's for sure about Atlanta's experiment with water privatization, City Councillors Howard Shook and Claire Muller say they've learned a tough lesson.

"My inner conservative no longer worships at the alter of privatization as I might once have done. That is for sure," says Howard Shook. "Sometimes it is the best answer but I now know that it is not always the answer, and we have to be very careful about it."

"Water is something very important to everybody," says Claire Muller. "And I do think that we got a little carried away four years ago with the hype of this being the silver bullet that was going to solve all our problems. We went down the wrong path."

http://www.cbc.ca/news/features/water/atlanta.html

Buyers Up • Congress Watch • Critical Mass • Global Trade Watch • Health Research Group • Litigation Group
Joan Claybrook, President

The water privatization "model"

A backgrounder on United Water's Atlanta fiasco

"Our work in the contract operations arena has been very exciting, particularly with our success in Atlanta. The cost reductions and improved efficiencies realized by these operations are a testament to the benefits that public-private partnerships can provide to municipalities across the nation."

- Jean Michel Brault, United Water president and acting CEO, Jan. 29, 2001

Atlanta and United Water part ways.

Headline in *Atlanta Journal Constitution*, Jan. 24, 2003.

In 1998, the city of Atlanta signed a 20-year, $428 million contract with United Water, a subsidiary of the French corporate conglomerate Suez, to operate Atlanta's water system. It was the biggest privatization contract in the United States, and its signing was celebrated by victory-declaring water corporations. Atlanta would be the "model" for other communities, gushed privatization's promoters and apologists. Taxpayers and customers would save money and systems would be improved, as privatization proved itself the win-win situation for the 21st century. Atlanta was going to show the way.

Or so the story went.

But even before United Water took over the system in 1999, there were suspicions that the company had vastly overstated the amount of money it could save, and vastly underestimated—at least publicly—the amount of work required to operate the system. When the company's assumed the system's operation, suspicion turned to remorse as Atlanta discovered the ugly realities of the "model" for privatization:

•United Water more than halved the number of employees, from more than 700 to just over 300. The company also slashed the amount of training provided to remaining employees to levels far below training requirements called for in the contract.

•A backlog of work orders and maintenance ballooned for virtually every portion of the system, from main breaks and facility maintenance to meter installation, hydrant repairs and fleet maintenance. Not only was the company failing to address the growing backlog of work orders, it couldn't even keep competent records of the backlog. A broken water line could take as much as two months to fix; maintenance projects hovered at a 50 percent completion rate.

•Almost immediately, United Water started hitting up the city for more money, and tried to add $80 million to the contract. The city refused. United Water came back with charges of $80

million for additional expenditures. Atlanta's Water Commissioner refused to approve the payments, but in a bizarre twist, letters authorizing the payments showed up with the signature of former Mayor Bill Campbell. Campbell in turn denied he had ever signed the documents. The city attorney ruled the authorizations invalid, and United Water eventually backed away from pressing the claim.

•United Water billed the city an extra $37.6 million for additional service authorizations and capital repair and maintenance costs, and the city paid nearly $16 million of those costs. Pay was withheld for the rest—$21.7 million—however, because the work either wasn't complete or hadn't even been started. United Water was billing the city for work it didn't do.

•The city found that United Water was improperly billing the city. For instance, routine maintenance was billed to the city as "capital repairs." And the city discovered that United Water personnel, on Atlanta's dime, were working on United Water projects outside of Atlanta, including efforts by the company to land contracts in other cities.

•The city repeatedly complained that United Water was uncooperative and less than forthcoming when the city requested information from the company. Trust in the company eroded to the point that the city spent $1 million to hire inspectors to verify United Water's reports.

•Even after slashing the workforce to dangerously low levels, failing to fulfill maintenance and repair duties called for in the contract and successfully billing the city for millions more than the annual contract fee, the much-vaunted savings from privatization didn't materialize, and the promise that a rate hike could be averted through savings turned out to be empty.

The promoters of privatization were absolutely right when they claimed the Atlanta contract would be a model for the privatization of water services. In that model, as so powerfully illustrated in Atlanta, the company makes promises it knows it can't keep, with the expectation that the city can simply be billed for additional charges later. While the extra charges are designed to boost the revenue side of the equation, the company attempts to dramatically cut its own costs by reducing the workforce to inadequate levels and failing to perform maintenance and repairs. The company is emboldened to pursue such an anti-consumer strategy because it has secured a long-term contract designed to hold consumers captive to the company's monopoly for decades.

Atlanta managed to get out, and now faces the daunting task of taking back its water system and performing needed upgrades that were neglected during United Water's tenure. Supporters of privatization, meanwhile, in a desperate if audacious stab at spin control, claim that the Atlanta lesson is still a model for other communities considering privatization.

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He's absolutely right. Whereas Atlanta signed its public water system over to a private company, other cities should do completely the opposite, and keep public resources under public control.

TRUTH FROM THE TAP

THE TRUTH ABOUT PRIVATE WATER IN ATLANTA, GA

In 1999, the Atlanta City Council signed a 20-year, $428 million contract with United Water to operate Atlanta's water system. However, by 2003, the two parties ended the engagement after a string of disputes.

ACTIVIST FICTION

Food & Water Watch (FWW) calls the Atlanta experience "a warning to communities about what can go wrong when private interests take over public water services" and claims that the partnership resulted in lost jobs, declining water quality, higher rates, backlogged maintenance and unrealized cost savings. FWW and other critics have repeated false claims about Atlanta in at least six reports or case studies since 2009.

THE REAL STORY

Despite what critics have claimed, the system had no water quality issues and no public employees lost their jobs because of private operation. Critic claims about maintenance backlogs and cost savings don't tell the full story. In addition, activist groups ignore the problems that Atlanta has faced since the water system moved back under public operation. Atlanta is an important illustration of how critics ignore facts and misrepresent the truth when describing the record of private water.

JOBS

The contract with United guaranteed jobs with wages and benefits equal to or exceeding those offered under public operation.[1] In addition, employees were trained in new skills and more than 6,500 staff training hours were provided in the first year of United's contract.[2] Further, since taking back control of the water system, the city has maintained the same staffing levels as United Water.[3]

RATES

FWW and other critics ignore the fact that water rates have increased significantly under city control. In 2001, under United's management, a household using 15,000 gallons of water per month was charged $177.22 for water and sewer.[4] Now in Atlanta, that same household is charged $412.92, greatly outpacing the rate of inflation.[5] Between 2001 and 2012, Atlanta's rates increased 233 percent, the largest rate spike of any city in the U.S.[6] As of 2011, Atlanta had the highest water rates in the United States.

MAINTENANCE

Critics fail to note that the water system United inherited in 1999 was in much greater disrepair than the city had disclosed. For example, in its contract with United, the city estimated that 1,171 water meters per year would require repairs.[7] By contrast, in the first year of the contract, 11,108 meters broke.[8] United repaired more than 36,000 meters between 1999 and 2002, 889 percent more meters than the city included in the contract.[9] Further, a performance review of United, undertaken at the request of the city, resulted in scores averaging 97 out of 100, another fact that critics ignore.[10]

WATER QUALITY

Critics cite boil water alerts as evidence of United providing unsafe water. However, a 2002 letter from the Georgia Department of Natural Resources to the mayor of Atlanta confirmed that the alerts were caused by events completely beyond United's control.[11] Further, the EPA does not list any water quality violations for Atlanta between 1998 and 2002 while the system was under United's management, but there have been two violations where water contaminants exceeded safety standards since the city took back control.[12]

PROJECTED SAVINGS

United initially projected it could save $52.9 million in the first three years of operation, though the actual savings turned out to be $29.4 million. However, a city audit found that the main reason for the discrepancy in savings was that the city had cut operating costs during the two years leading up to the new contract.[13] The audit concluded that, had the city given United better information on staffing and expenditure reductions in the first place, the company would have altered its initial estimate of projected savings.[14]

ATLANTA TODAY

Now back under public control, Atlanta's water system has been plagued with problems, from skyrocketing water rates to faulty meters and erratic billings. As of 2011, Atlanta had the highest water rates of any major U.S. city, and inconsistent and incorrect billings have even led to a class-action lawsuit against the city.[15]

1 "US Conference of Mayors Best Practice Recognition: City of Atlanta and United Water Services Atlanta, Press Release, Accessed 2/13/15.
2 Ibid.
3 "Atlanta terminates contract with Suez," Global Water Intelligence, Vol 4, Issue 2, 2/2003; "Atlanta may throw out private water utility operator," Atlanta-Journal Constitution, 1/19/03.
4 "Nation's water costs rushing higher," USA Today, 9/27/12; "50 Largest Cities Water/Wastewater Rate Survey," Black & Veatch, 2012-2013.
5 Atlanta Department of Watershed Management Bill Calculator, Accessed 4/22/14.
6 "Skyrocketing water bills mystify, anger residents," CNN.com, 3/2/11; "Nation's water costs rushing higher," USA Today, 9/27/12; clatl.com, 9/28/12 and "USA TODAY analysis: Nation's water costs rushing higher," USA Today, September 27, 2012.
7 Geoffrey Segal, "The Atlanta Privatization: What Can We Learn?" Georgia Public Policy Foundation, 1/21/03.
8 Ibid.
9 Ibid.
10 "Atlanta terminates contract with Suez," Global Water Intelligence, Vol 4, Issue 2, Feb. 2003.
11 Letter, Georgia Department of Natural Resources to Atlanta Mayor Shirley Franklin, 10/11/02.
12 EPA Safe Drinking Water Information System, Accessed 2/13/15.
13 "Performance Audit: Analysis of City Savings from Private Operation and Maintenance of the Water System," Office of the City Internal Auditor, Jan. 2003.
14 Ibid.

MILWAUKEE PUBLIC–PRIVATE PARTNERSHIP FOR OPERATION, MAINTENANCE, AND MANAGEMENT OF MUNICIPAL WASTEWATER SYSTEM

1999 NCPPP Project Award Winner
Project Location: Milwaukee, Wisconsin
Public Sector Partner: Milwaukee Metropolitan Sewerage District (MMSD)
Contact Name: Kevin Shafer, Executive Director
Private Sector Partner: United Water

Project Summary
The 10-year contract between Milwaukee Metropolitan Sewerage District (MMSD) and United Water Services (UWS), the country's largest wastewater public-private partnership agreement has already begun paying dividends for Milwaukee-area residents and has set a new standard for municipalities across the country considering public-private partnerships.

As a result of this contract, the MMSD Commission was able to reduce user charges by an average of 16.5 percent when it adopted the District's 1999 Operation and Maintenance budget. This action will result in significant savings for the District's customers. The District's six-year forecast projects user charges to remain steady for the next four years and to increase thereafter at the rate of inflation. The United Water contract allowed the District to give its customers an immediate, significant rate decrease, while at the same time offering stable rates for the foreseeable future.

A unique component of MMSD's contract is a no layoff guarantee from UWS for the entire term of the contract, the first of its kind to be included in a competitive contract. The contract also included a requirement that USW compensation benefits packages would equal or exceed current District programs.

A second unique component is the contract's pension agreement. UWS proposed to have District employees remain part of the City of Milwaukee's public employee pension fund. This required the District, UWS and the City of Milwaukee to request that the Internal Revenue Service and the Federal Department of Labor allow the employees to remain in the plan without compromising its status as a government plan. A favorable IRS and Department of Labor ruling was received in May 1999 and many observers predict it will ease local labor concerns about privatization by providing a way for tenured municipal workers in other cities to keep their public pensions if they become private-sector employees.

During the first year, United Water Services and four union locals representing 210 employees signed a unified collective bargaining agreement in January. The five-year labor agreement was the first to be negotiated concurrently with all four unions. In the past, each union negotiated separately with MMSD and signed individual collective bargaining agreements. The agreement is one of the first of its kind in the country to include four labor organizations and a private operator.

Workplace accidents decreased 60 percent over the year following the startup of the contract, while grievances dropped 33 percent. Employees also became eligible for bonuses and training opportunities at other UWS' operations throughout the country.

Under the United Water O&M contract, the MMSD's two wastewater treatment plants have received AMSA awards for the past five years. The South Shore and Jones Island Treatment plants received the AMSA Platinum Award in 2001 and 2002, respectively, for four consecutive years of Gold Awards

THE TRUTH ABOUT PRIVATE WATER IN MILWAUKEE, WI

In 1998, United Water (now SUEZ NA) entered into a 10-year, $300 million agreement with the Milwaukee Metropolitan Sewerage District (MMSD) to provide wastewater treatment services. Milwaukee officials expected to save an estimated $130 million, or 34 percent of the cost for sewer service, over the term of the contract.

ACTIVIST FICTION

Critics like Food & Water Watch (FWW) claim the experience in Milwaukee "is indicative of problems suffered under privatization"[1] and blame United Water for the problems with the city's system, including sewage overflows and pump shutdowns. FWW and other critics have repeated false claims about Milwaukee in at least six reports or case studies since 2009.

THE REAL STORY

Despite what critics have claimed, United Water's operations in Milwaukee saved residents $144 million in the first nine years of its contract, beating projected savings by a wide margin. In addition, city officials didn't blame United Water for the issues that arose and, in fact, applauded the company's work. While critics attempt to blame United Water for every issue, facts from independent sources tell the real story.

SAVINGS: The 10-year, $300-million contract between United Water and MMSD saved the district millions of dollars. Through just the first three years of the contract, the district saved $36.5 million compared to government operation.[2] After five years, the savings amounted to $66.4 million. According to MMSD Assistant Controller Bob Sander, United Water saved ratepayers $144 million in the first nine years of its contract, beating its projected savings by a wide margin.[4]

SEWAGE OVERFLOWS: While FWW blamed United Water for a series of sewage overflows in 2004, a task force appointed by then-Mayor Tom Barrett found otherwise, stating that the company was not a contributor to the overflows.[5] Further, the task force agreed with the Wisconsin Department of Natural Resources, which stated in 2002 that "rainwater leaking into local sewers is the major cause of sewer overflows" in Milwaukee.[6] The task force report also found fault with MMSD for not moving aggressively enough in the past to curb rainwater infiltration into sewers.[7]

COST CUTTING: Critics argue that United Water violated its contract by shutting down pumps to cut costs, a practice they claim resulted in the dumping of more than 100 million gallons of sewage.[8] But, the MMSD confirmed that "none of United Water Services' actions [to shut down pumps] prompted either a combined or separated sewer overflow."[9] In fact, it was confirmed that the pumps were shut off to switch power sources during storm events, a practice mandated by MMSD.[10]

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Stockton, California

Residents of Stockton, a community of 250,000 in the heart of California's Central Valley have been battling for more than three years for a voice in the future management of their water system. At stake is the largest water utilities privatization on the West Coast -- a 20-year, $600 million operations contract with OMI-Thames to manage Stockton's drinking water, storm water and wastewater system. The contract is a first in the United States for Thames Water, the third largest water company in the world. Thames considers Stockton a showcase in their plans for taking over more municipal water systems in the U.S., where approximately 85% of the population is served by publicly owned and operated utilities.

But the deal has been fraught with controversy from the start, and the costs keep rising. An independent analysis of the contract dismissed the savings promised by the City's pro-privatization consultants and predicted the city would actually loose money in the long term.

In the summer of 2002, a local coalition took its battle directly to voters after their concerns were repeatedly ignored by city officials. The coalition collected over 18,000 signatures to place an initiatve on the ballot that would have given voters final approval over the contract. But in a devious move, the Stockton city council approved the contract just two weeks before the coalition's initiative was adopted by voters.

On August 1, 2003, OMI-Thames began operating Stockton's water utilities, against the public's will. But the fight was far from over and the next round was in court. On October 20, the San Joaquin County Superior Court determined that the City of Stockton illegally violated the California Environmental Quality Act by not conducting an environmental and public review. The ruling will likely send the contract back to the drawing board. And this time, the public should have its say.

"It's been a long fight -- first an initiative, then a referendum, and finally a lawsuit," said Sylvia Kothe, Chair of the Concerned Citizens Coalition of Stockton, the leading plaintiff in the lawsuit along with the San Joaquin Chapter of the League of Women Voters and the Mother Lode Chapter of the Sierra Club. "Our goal all along has been to let people vote on whether or not to privatize their water system.

Now the court has taken a clear stand in favor of democracy, against the City of Stockton's illegal attempt to cut the public out of the process of governing our water. We hope cities around the country, and the world, will take note and think twice about risky privatization deals."

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The Facts about Wastewater, Stormwater, and Water Contract Management in the City of Stockton

Prepared by
Geoffrey F. Segal, Director of Privatization and Government Reform.
Geoffrey.Segal@Reason.Org

Myths	Facts
Myth # 1: Rate increases	
▪ When water is privatized, rate increases invariably follow.	▪ A public-private partnership will result in financial benefits to the ratepayer and water quality guarantees ▪ The city of Stockton will retain control over and will be responsible for setting water rates. OMI-Thames Water will have no say about water rates.
▪ Corporations use rate hikes to maximize profits—their bottom line. This often comes at the expense of water quality and customer service (but not executive salaries).	. Traditionally, in fully privatized systems, the systems were out of environmental compliance before privatization. In fact, the systems that were privatized were privatized because of environmental failures. ▪ OMI-Thames Water will not have the authority to raise rates. Only the city can raise rates. ▪ Without outsourcing, the city will have to raise rates by 35 percent to pay for capital improvements to meet the new environmental regulations. That's why the city is considering a public-private partnership: to keep rates low and to improve the quality of water and to improve customer service. ▪ OMI-Thames Water's cost and performance are guaranteed and will result in only a 7 percent increase in rates and no more.
▪ Water is a basic human need and shouldn't be treated as a marketable commodity.	▪ Water is a basic need as are food, clothing and shelter, all marketable commodities. We don't ask the government to provide these. ▪ OMI-Thames Water has no influence or control over rates or water availability.

Myths	Facts
Myth # 2: Water quality decreases	
▪ Because corporations care about profits rather than the public good, privatization usually results in decreased environmental standards. ▪ The National Association of Water Companies (NAWC), which represents the U.S. private water industry, intensively lobbies Congress and the Environmental Protection Agency to lower water quality standards.	▪ U.S. EPA has identified privatization and outsourcing as tools to improve environmental standards.[1] ▪ Municipal agencies are not without problems. In 2002, nearly 30 California communities—all municipally operated—faced enforcement action (fines) from the State Water Resources Control Board. ▪ U.S. EPA, the state of California and the County set environmental standards. OMI-Thames Water must comply with these standards. ▪ In fact, NAWC is fighting for performance-based regulations that have a direct impact on water quality.
Myth # 3: Corruption	
▪ As we saw in the "energy crisis" last year, privatization encourages corruption. ▪ Checks and balances are missing at every step of the process, from bidding on the contract to delivering water. ▪ Contracts are usually worked out behind closed doors with the details often kept secret from the public even after the contract is signed.	▪ Many public utilities, including Los Angeles Dept. of Water and Power, charged the highest rates to consumers in California. ▪ The city of Stockton was fair and open throughout this process. The consultants, City Council and Municipal Utility District staff have been involved in every step. The team of citizens reviewed the Request for Proposals. Public comment was welcome and heard at all council meetings and at seven public forums. The OMI-Thames Water proposal is available to the public on its Web site.
Myth # 4: Job losses	
▪ Massive layoffs often follow in the wake of privatization, as companies try to minimize costs and increase profits.	▪ There will be no layoffs. OMI-Thames Water will hire all employees designated by the city. ▪ U.S. Department of Labor and General Accounting Office (GAO) studies show job loss averaging less than 7 percent after privatization.
▪ At times, service and water quality are put at risk due to understaffing.	The contract outlines performance requirements and staffing levels. OMI-Thames Water is fully committed and required to meet or exceed levels of service and quality of water and wastewater.

[1] U.S. Environmental Protection Agency, Environmental Finance Program, A Guidebook of Financial Tools Section 4B. Public-Private Partnerships and Optimization Case Studies, 1999, www.epa.gov/efinpage/guidbk98/gbk4b.htm.

Myths	Facts
▪ Since water is a necessity for life, people may die if they can't afford water.	▪ The city controls water and wastewater rates and has all rate-setting responsibility. OMI-Thames Water has no control over rates. ▪ The contract actually keeps rates down, making water more affordable.
Myth # 9: Private financing costly	
▪ The City Council is selling the idea of privatization by implying that the private water corporation will assume the costs of repairing, upgrading, and maintaining our water infrastructure.	▪ OMI-Thames Water will assume all costs for repairing, upgrading and maintaining the water infrastructure.
▪ This is a false economy. In reality, all costs will simply be passed on to us. The ratepayers, through our monthly water bills.	▪ Public provision of services is not free. You already pay for it through your taxes and monthly water bills.
▪ In fact, since the city can get tax-free public financing to do this work, it is in our best interests to do it ourselves and save the extra money the private corporations will have to charge due to their higher interest rates.	▪ The city can ask OMI-Thames Water to propose on other improvements in the future, if needed, but has no obligation to assign the work to the company. It has the full freedom to pursue and select other companies to perform any improvements. ▪ As owner of the assets, the city still has access to tax-free and low-interest financing. Thus the city gets dual benefits of low-cost financing and low-overhead services for improvements in the utility infrastructure.
Myth # 10: Water exports more likely	
▪ When those who control our water care only about making money, they may decide to export our water to areas willing to pay more.	▪ The city owns and controls the water in Stockton. OMI-Thames Water is only a service provider to operate and maintain the facilities, equipment and staff of the utility.
▪ In addition, they may take too much water.— Over-extraction of water can result in ecological imbalance and destruction. ▪ Would a foreign corporation care about the effects on our environment?	▪ OMI-Thames Water is responsible for distributing the water provided by the city. Water extraction is monitored and regulated by the city. ▪ OMI-Thames Water is a U.S. corporation. U.S. EPA maintains regulating authority. The same rules and regulations will apply to OMI-Thames Water. In fact, OMI-Thames Water is more likely to follow environmental regulations due to contract requirements and performance measures.

Stockton, CA Regains Control of its Water

Water Privatization Scheme Undone

Victory for safe, affordable in Stockton, California!

11.11.06Water Privatization Scheme Undone
The people of Stockton, CA won an enormous victory when a California judge ruled that the city of Stockton illegally privatized its water and sewer operations. In dealings that have been typical of water privatization contracts, back room negotiations gave OMI-Thames, owned by Cal-Am, a 20-year, $600 million contract without the proper public scrutiny or environmental reviews.

The contract with OMI-Thames had been widely opposed from the start. Although Stockton voters passed a popular measure allowing the public to vote on privatization contracts, the water contract was rushed through a month before the measure went to ballot. Pressing for accountability, the Concerned Citizens Coalition of Stockton waged a four-year grassroots campaign to reclaim their municipal water utility. During these years, residents suffered from excessive rate increases, frequent sewer overflows and poor maintenance in which equipment was run to failure rather than repaired.

With the company legally ordered to return control to the city, the nightmare ended. Now, the Stockton City Council has an unprecedented opportunity to start fresh and develop a plan for local control of water, incorporating public input in a transparent process.

We’ve learned from experiences like Stockton that once water has been privatized, regaining public control is incredibly difficult. **Water is a public responsibility and must be managed in the public trust.**

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Food & Water Watch Headquarters

Comparing the Atlanta and Indianapolis Public Works Partnerships: Revisited

By

William B. Eimicke, Steven Cohen & Eve Warburton

June 2011

Atlanta's Water Contract

We all need between twenty and fifty liters of water free of contaminants every day to live a healthy and productive life (UNESCO 2006). Water's importance is rising as population densities and climate change interact to create more regions with acute water shortages (Sachs 2005, 283). Indeed, water has been called "the oil of the 21st Century" (CBC News 2004).

According to the U.S. Environmental Protection Agency (EPA), the United States has one of the safest water supplies in the world (U.S. Environmental Protection Agency 2006). However, water quality varies from state to state. In Georgia, where Atlanta is located, there were no water systems violating maximum containment levels or treatment levels according to a recent report of the U.S. EPA (2003, 4). Atlanta decided to privatize its water services in an attempt to solve a fiscal crisis rather than to deal with a water supply or quality problem (although

department" (Koller 2003).

Despite the early promise, privatization failed. In August 2002, the new mayor, Shirley Franklin, presented United Water with a detailed report charging that the company would default on its twenty-year contract in ninety days if major improvements were not made, and she instituted a performance scorecard to monitor the contractor on a daily basis.

The city charged that due to understaffing, the contractor was providing poor water quality, not fixing leaks, not maintaining or reading meters on a timely basis (leading to revenue losses), and failing to provide the city with the information it needed to monitor the contractor. The government assumed that the contractor kept staffing at low levels to keep costs low and inflate its bottom line. Past supporters such as former council member Morris reported dozens of constituent complaints of brown water and advisories to boil the water before drinking.

The contractor initially responded that it had not been cited with water quality violations. They also argued that the city had underestimated the maintenance workload in the original contract. Nevertheless, the contractor agreed to be accountable to the city through a performance scorecard for a ninety-day re-evaluation period. Both the city and the contractor affirmed their commitment to continue the relationship (Rubenstein 2002). Yet on January 24, 2003, United Water Services Atlanta and the City of Atlanta announced that they had reached a mutual dissolution agreement for the contract they signed in 1999 (Suez 2003).

In departing Atlanta, the contractor cited recent independent performance reviews rating its performance at 97 out of 100 and noted its successful operation of more than a hundred similar contracts for cities across the United States, Canada, and Puerto Rico. But the citizens of Atlanta, the city government, and independent sources told a different story of brown water, delayed maintenance, recurring leaks leading to collapsed roads, and billing irregularities. Additionally, an independent audit showed that the city saved only about half what the company had promised when the contract was approved (The Center for Public Integrity 2003).

So in early 2003, the city of Atlanta, coming off an $82 million budget deficit, began the process of recreating a public utility with the Department of Watershed Management to run the city's water system. The city faced the prospect of increasing the charges to ratepayers for the real cost of service with no obvious way to pay for $800 million worth of short-term repairs and as much as $3 billion in long-term infrastructure investment (JehI 2003). While the Atlanta case is important in and of itself, it might also provide lessons for communities around the country (indeed around the world) that are considering the privatization of their water system.

What Went Wrong?

The process of determining what went wrong in Atlanta began in 2003. Soon after canceling the contract, city officials blamed the contract itself - "There were too many gray areas" said the new manager of the city water system (Mariani 2003). For example, there was no timetable for fixing leaks in the system.

Second, the numbers didn't add up. The contract initially promised annual savings of $20 million a year to the city, but the independent audit before the cancellation showed actual savings closer to $10 million. The city estimated it could

operate the system for about $1 million more than it was paying United (Mariani 2003). And since United reported losing $10 million a year running the system, it appears that there were few real efficiencies and a lot of complaints about water quality, maintenance, and management (Arrandale 2003). United attributed its higher than projected costs to the city's failure to disclose the poor shape of its infrastructure, but, as Elizabeth Brubaker of Environmental Probe, an environmental research group based in Toronto said, "lt looks like they didn't take a close enough look at the system before taking on the contract" (Simpson 2003).

According to Public Citizen, a Ralph Nader-affiliated group, the "ugly realities" of the privatization were clear early on - a cutback of employees from more than seven hundred to just above three hundred, a system wide backlog of work orders, $16 million paid for "additional repair and maintenance costs;' and improper billing for work done by the contractor outside of Atlanta (Public Citizen 2003). United Water claimed the city grossly underestimated the basic repairs and maintenance that would be required - l,l7l water meter repairs per year estimated versus 11,108 actual, 101 main breaks estimated versus 279 actual, and 734 hydrant repairs estimated versus 1,633 actual (Segal 2003, 7).

The gap between the estimates and actual experience was the result of the absence of good data to establish a baseline. The city had either failed to keep proper records or to collect the required data in the first place. Nevertheless, even privatization advocates acknowledge that United Water and other private bidders knew about the data problems before they bid and they all had experience with large, older systems. The firms should have adjusted their bid based on past experience with similar systems and also included a contingency factor for uncertainty (Segal 2003,8).

And then there is the Mayor Campbell factor. On August 21, 2006, former Atlanta mayor Bill Campbell entered a federal correctional institution in Miami to begin serving two and a half years on three tax charges (Scott 2006; Associated Press 2006; CNN.com 2006). A five-year investigation of corruption in the Campbell administration in Atlanta resulted in ten criminal convictions, including Campbell's top two deputies (Whitt 2004). According to the indictment, Campbell and his COO Larry Wallace accepted a $12,900 trip to Paris from United Water in 1999. Campbell later signed an $80 million increase in the contract, which was subsequently disallowed (Whitt 2004; *New York Times 2004).*

The benefits of privatization are often linked to competition - private companies will use cutting-edge technology, cost control, and superior management to win customers with the best product or service at the lowest price. The more competitive the market, the better it is for consumers. In the case of Atlanta's water-system, the intense competition among private companies may have actually worked to the detriment of the people of Atlanta. To win the contract, the contractor may have lowballed the bid and provided an unsustainable price to the city. In the late 1990s, the Atlanta water contract was the largest water contract open to private operators, and it was therefore viewed as a major advantage in competing for other city deals where there were aging, cash-strapped public utilities. Five major companies spent millions competing for the deal, and according to Lee Morris, then chair of the Utilities Commission, "we certainly heard that it was important to all of these large companies, that this was going to be the first one, the

(Segerfeldt 2005, 84-88).

To put the problems with the Atlanta water contract in perspective, there are more than 25,000 privately operated water systems in the United States and tens of thousands of others around the world that operate without notable issues, suggesting that the Atlanta case may be an "outlier" (Wallsten and Kosec 2005, 7). Indeed, in Indianapolis, Indiana, a partnership including Suez Lyonnaise (the owner of United Water Atlanta) won the contract to operate the city's wastewater treatment plant. That private partnership cut costs and workforce, reduced energy consumption, and returned more than $11 million a year to the city compared to the public operator-more than a 30 percent savings. The private partnership also dramatically improved environmental standards and compliance (Goldsmith 1997, 199-221).

What is typical of the Atlanta case are the problems that led the city to turn to a private operator in the first place. Underinvestment and a lack of preventive maintenance left the system in poor condition, leading to frequent leaks, damage to streets and infrastructure, waste, interruption of service, and reduced water quality. The administration was characterized by slow decision-making, lack of performance incentives, and politically influenced hiring and promotion practices. Meter repairs were slow, and billing and collection practices were lax (Segerfeldt 2005, 18-27).

Advocates of the privatization of water argue that private companies are well equipped to deal with the problems faced by Atlanta in the late 1990s. Large multinational companies have ready access to capital, possess cutting-edge technology, and are focused on cost control. Private companies are also driven to maximize the number of individuals and businesses receiving services, streamline billing and collection procedures, and seek optimal pricing to yield maximum profits (Segerfeldt 2005, 77).

As for the problems typically associated with privatization, some apply to the Atlanta case and some do not. A major concern associated with the privatization of water management is that prices will rise, making water unaffordable for the poor. This was not a major problem in Atlanta.

Second, privatization frequently involves substituting a private monopoly for a public one, losing the benefits of competition. This was less of a problem in Atlanta because the bidding for the contract was highly competitive, so Atlanta received an excellent price. However, once United Water took over, they did not face ongoing competition, which may have led to deterioration in the quality of service provided. It could also be argued that the city failed to carry out its regulatory responsibilities and monitor and enforce the terms of its contract with United Water.

What Has Happened Since the City Cancelled the Contract?

Water and sewer services returned to Atlanta city government in 2003 under the supervision of the Department of Watershed Management (DWM), and they remain a city responsibility at the time of writing. Initially, water controversies disappeared from the front pages of local newspapers and were seldom a topic for television and radio investigative reporters. A 2006 report by the DWM to the Atlanta City Council highlights the progress on mandated combined sewer overflow capital projects, water main replacement, and sewer rehabilitation projects; the on-time, on-budget completion of the Nancy Creek Tunnel and Pumping Station; and a more efficient

and customer-friendly billing system (Department of Watershed Management 2006, 3). The DWM reports no Safe Drinking Water Act violations since taking over in 2003, only three boil water advisories, and 100 percent of water quality complaints responded to within twenty-four hours (Department of Watershed Management 2006, 7). The agency also reports an increase in meters read, rising from 60 percent in 2003 to 97 percent by March 2006. Rate collections had increased to an annual rate of 99.36 percent, compared to a target of 98.5 percent (Department of Watershed Management 2006, 18).

However, the DWM eventually began to suffer the same problems as United, and from 2009 the media became increasingly critical of rate increases, corruption and declining service quality. In January 2004, faced with a court-ordered moratorium on water and sewer hookups, the City Council and Mayor Shirley Franklin agreed on a five-year package of rate increases that raised the average consumer bill from $49.60 to $107.57, a 117 percent increase, by 2008 (Tagami 2004a, B1). A significant portion of the rate increase was necessary to pay for more than $1 billion in court-mandated sewer work. Nevertheless, Mayor Franklin commented, "We should compliment ourselves for turning the corner on clean water for the first real time in 30 years" (Tagami 2004a, B1). Not everyone in Atlanta shared the mayor's enthusiasm. John Sherman, head of the Fulton County Taxpayer Association, said, "We feel these water rate increases ... will result in an exodus of moderate and middle class income families from the city of Atlanta and Fulton County" (Hendrick 2004, JN1).

The City's progress on the court-mandated $3.2 billion in water and sewer infrastructure has been a series of ups and downs since it resumed management of the system. Mayor Shirley Franklin called herself the "sewer mayor" and raised the sales tax and water and sewer rates to pay for work. In 2005, ten years after the Upper Chattahoochee Riverkeeper advocacy group filed its first federal lawsuit to force the city to fix its sewers, its executive director Sally Bethea said, "This mayor has dealt with the problem head-on .... The river is definitely better when it comes to the impact of the city of Atlanta" (Shelton 2005, B1).

But only a year later, the Mayor reported that the $3.2 billion overhaul would now cost $3.9 billion and that water and sewer rates would have to go even higher. Those increases alone will double the rates from where they were when the city resumed management of the system in 2003 (Tagami 2006, B6). The higher costs were blamed on higher construction costs due to the economic growth of China and the post-Katrina cleanup along the Gulf Coast. The aforementioned Chattahoochee River project had fallen behind schedule and would not meet the November 7, 2007, completion date required by the consent decree. The city blamed the drilling contractor and the drill manufacturer for a twenty-seven-foot drill bit that broke. Even before the breakdown, the contractor was making only half the expected daily progress (Pendered 2006, B 1).

By 2009 water was back on the public agenda, with numerous controversies making local headlines. A 2009 article in the *Atlanta Journal Constitution*, for example, complained that Atlanta's residents pay far more for water than people in other major American cities - 108% more than in New York and 144% more than in San Antonio (Bennett 2009a). And the price is only going up as the City tries to accrue revenue to fund the 4.1 billion dollar project to upgrade the aging

infrastructure. When the City reassumed control of the Utilities, Mayor Franklin claimed that ratepayers would only be responsible for funding a small portion of the system overhaul. The expectation was that aid from state and federal "partners", and a sale's tax, would offset the cost. But between 2005 and 2008 Atlanta won only $6.7 million in federal aid, while spending $3.4 million to lobby for that funding (Bennett 2009a). State and federal budgets are just as tight as in the municipalities, and any expectation that the federal government would commit large sums of money for municipal water and sewerage was misplaced. This means that the ratepayers continue to foot the bill. According to one media report, "Rate increases already approved will make the average water bill jump to $151.92 from $49.60 per month — a 206 percent increase — during the decade that ends in 2012" (Bennett 2009a). The city has also taken on a massive debt to pay for the improvements. Including interest, the debt amounts to 7 billion dollars that will take up to 40 years to pay off.

The DWM has struggled in other areas of service delivery as well. A 2004 city internal auditor report, for example, found that the Department of Watershed Management was doing a worse job of collecting water and sewer bills than United Water had, with $81.3 million uncollected, up $26.6 million since the city took over in April 2003 (Tagami 2004b, D3). DWM commissioner Rob Hunter blamed the problem on a lack of employees, saying he expected the number to rise from four to forty by the end of 2005. He commented, "It takes awhile to turn around the ocean liner" (Tagami 2004b, D3). Another audit was commissioned in 2009 to investigate a series of unexplained rate hikes and service shutoffs by the DWM. Around this time Hunter denied the department was responsible for any wrongdoing or that any regulations had been violated. According to an article in the *Atlanta Journal-Constitution*, he "became a daily target of television reports on customers with billing errors and poor customer service." (Bennett 2009).

Two DWM employees were arrested in 2005 and charged with cheating the city out of $1 million in water bill revenues, using computer expertise to clear indebted accounts in return for kickbacks from customers (Tagami 2005, B1). During 2005, ten DWM employees were charged with insurance fraud for claiming injuries they did not suffer, and an erosion control inspector was charged with bribery (Tagami 2005, B1). In 2009 a series of investigations revealed that more staff had been involved in corrupt activities – taking kickbacks for fixing customers' outstanding water bills (Suggs 2010). Clearly, the ethical challenges related to water administration did not end with the Campbell administration and the United Water contract.

In the seven years since taking back management of the water and sewer system, the city of Atlanta has encountered all the problems that led them to seek an outside contractor to operate the system in the late 1990s. Water and sewer rates have been raised substantially. The public payroll for the department has increased dramatically. The capital construction costs have continued to rise, and key project completion dates are being missed. Initially, Mayor Franklin's willingness to accept responsibility for the system seemed to keep public and media criticism to a level well below the anger directed at the Campbell administration and United Water. However, public antagonism had grown by 2010 and Mayor Kasim faced the same problems as his predecessors. So on September 7, 2010 Commissioner Rob

Hunter resigned. According to the City's chief operating officer Peter Aman, the Department "needed a new direction….[and] to be more effective in serving the customers" (Suggs 2010). Six deputy commissioners were also "let go". In April 2011, Jo Ann J. Macrina was appointed as the new Commissioner of Watershed Management and has been charged with fixing the flailing department by the end of the year.

Did Contracting Work Better in Indianapolis Than in Atlanta?

Stephen Goldsmith, the former mayor of Indianapolis, is perhaps best known for his pursuit of competition rather than privatization, permitting city agencies to compete with private companies to deliver city services (Osborne and Plastrik 1997; Osborne and Hutchinson 2004; Savas 2005). While city agencies won back about half of the services Indianapolis put out to bid, one of Indianapolis's most successful contracts with a private vendor involved the city wastewater treatment facility. The winning bidder in 1993-1994 was a private partnership that included Suez Lyonnaise des Eauz/United Water, the same company that failed in Atlanta. United Water has continued to participate in the operation of the Indianapolis facility through the time of this writing, with positive results. At the same time, however, the private company Veolia that was awarded the contract for Indianapolis's drinking water utility in 2002 has enjoyed far less success.

United and the wastewater treatment facility

When the privatization of the sewer collection system occurred in the late 1990s, the public employee union, AFSCME, which had bitterly opposed the first contract, decided to partner with United (Center for Civic Innovation 1999). The city saved $72 million under the first contract through 1999, more than the $65 million promised by the United partnership, pollution control standard violations dropped by 60 percent, time lost from accidents decreased by 91 percent, wages and benefits increased from 9 to 28 percent over comparable city job titles, and sewer rates were held constant (Savas 2005, 56). The number of employees did drop significantly, from 321 to 196, as a result of the application of state-of-the-art technology and automation (Savas 2005, 56-57). No employees were laid off as a result of the transaction. The city and the contractor used a series of banked job vacancies at the city to manage down the staffing levels without laying off existing utility employees.

Indianapolis's contracting out of wastewater services is frequently cited by proponents of privatization, outsourcing, and reinvention because it was a well-run public service that became substantially better and cheaper under private management. Atlanta entered into its contract with United within a year of Indianapolis's renewing its contract with the same vendor. How is it possible for two American cities to get such different results using the same contractor at the same time?

In late 2006, Goldsmith observed, "When a government administration is inept and ethically challenged, it is highly unlikely that they will be able to build an effective partnership with a private vendor. Was the Atlanta water debacle a failure of contracting or a failure of Government?" (Goldsmith 2006) Goldsmith further noted that "when Atlanta began the process of outsourcing their water and sewer system, we [Indianapolis] volunteered to donate the information we had learned

about the contracting of wastewater treatment over the past six years. Atlanta did not want the help' As Mayor Goldsmith told us, "[w]hen we started out, we tried to copy the best practices we could find in other governments and in the private sector. It seemed very odd to me that Atlanta administration did not even want to talk to us" (Goldsmith 2006).

What were the key elements of the wastewater project in Indianapolis? According to Goldsmith, the keys to their success were a strong team of inside experts reporting directly to the mayor and empowered to speak with his authority, a commission of private sector entrepreneurs to oversee all competitions, a sense of urgency based on the belief that if the city did not do more with less it would lose its tax base to the surrounding suburbs, and a clear recognition that tradeoffs are inherent in all decision making. Regarding tradeoffs, Goldsmith noted that the success of the wastewater contract involved a conscious balancing of price with service and quality considerations (Goldsmith 2006).

On the contract itself (which Atlanta pointed to as part of their problem), Goldsmith noted that the Indianapolis team had negotiated a good contract, but a good contract is only the beginning. A good working relationship is the key to success-''A great contract cannot make up for a bad relationship and if the relationship is solid, the contract document itself matters much less" (Goldsmith 2006). Atlanta and United point to the data problems in their deal regarding the initial condition of the system. Goldsmith told us that when he began as mayor, Indianapolis had very little management data and much of the data the city had was incomplete or inaccurate. "You have to make educated guesses, use benchmarking and your past experience. And both sides have to act in good faith and recognize they are dealing with imperfect data" (Goldsmith 2006).

Uncertainty is always a part of multiyear projects and agreements, which is why Goldsmith stressed the need "not to take every dollar off the table," "set reasonable expectations", don't overpromise, and build in reserve funds to deal with unanticipated problems (Goldsmith 2006). In the end, Goldsmith argued, "[i]t's all about the people-on both sides. We put our best people on the wastewater project and we demanded that the United Partnership do the same. And we did not hesitate to let them know if we felt strongly about the need for reassignments, from time to time" (Goldsmith 2006).

As to the proposition that contracting increases the danger of corruption, Goldsmith was strong and firm in his disagreement. "Honest people behave honestly, whether they are direct employees or contractors. Corruption comes from the individual and from the work environment, whether it is the public or the private sector" (Goldsmith 2006). Goldsmith (1997) also identified some other important lessons from the United contract. For example, it marked the first time the city brought legislators in early in the process and made it a practice to "over communicate" with all stakeholders, including the council and the general public (1997, 210).

In Atlanta, Mayor Campbell kept the details private, and the process was more of a war with stakeholders than a collaboration. Indianapolis carefully analyzed vendor proposals to help determine whether they were realistic in terms of price, service, and quality, based on their work in other places (Goldsmith 1997, 210). Had the Campbell administration carefully examined the work of United in other places,

they might have realized that their price and service demands were unrealistic and that they were forcing the vendor into an agreement that could not be sustained, thereby creating unrealistic expectations among stakeholders.

Why did Indianapolis terminate the contract with Veolia?

While the contract with United Water to manage the City's wastewater system is often referred to as an example of best practice, the same City experienced significant problems privatizing its water utility through a contract with Veolia. In 2002, under the leadership of Mayor Bart Peterson, the City signed a 20-year contract with Veolia to operate the water utility. While it was originally cited as another privatization success story, the same problems that plagued United in Atlanta began to emerge in Indianapolis – rate hikes triggered public antagonism, residents made accusations of inconsistent and inaccurate meter readings, and cases of corruption were covered in the media.

In a news report from *Circle of Blue*, the case of Veolia in Indianapolis was raised as an example of the public turn against privatization of water utilities. The report cites citizens' anger at requested rate hikes of up to 35%. Besides justifying the increases to improve the water system, the report also states, "the company attributes part of the problem to variable-rate bonds, which have seen their rates shoot up during the economic meltdown, and the need for millions in additional debt to get out of it" (Kellman 2010).

The company has been at the center of numerous legal conflicts. According to *Food and Water Watch*, Veolia was accused in 2005 of falsifying water-quality reports (Food and Water Watch, November 2009). The Indianapolis City-County Council also accused Veolia of cutting back on "employees, water testing, purification chemicals and maintenance", which had a significant impact on the quality of service delivery. Widespread public dissatisfaction with the company's performance also led to the filing of a class action law suit against Veolia Water Indianapolis, LCC, and the Department of Waterworks in April of 2008. The complaint alleges Veolia did not comply with requirements to read meters at least once every two months, and that employees estimated customers' bills far in excess of their actual usage. It includes claims for "breach of contract, negligence, deceptive practices, and fraud", and requests the status of a class action (http://www.silegal.com/cases/veolia/archives). The court's decision is still pending at the time of writing. A *Food and Water Watch* report also cites controversies regarding Veolia's treatment of employees, with law suits being filed against the company for cutting healthcare and other worker benefits (Food and Water Watch, November 2009).

Against this backdrop, the City-County Council voted in July 2010 to sell the water and sewer utilities for 1.9 billion dollars to a charitable trust, Citizen's Energy Group, which already provides natural gas services in the area (Merrick 2010). President of the City-County Council of Indianapolis and Marion County, Ryan Vaughn, said the decision to sell to a charitable trust, as opposed to a for-profit company, would prevent a rise in water rates. Vaughn said Citizen's Energy Group "is never going to have to earn a return to satisfy shareholders, so they can charge a lesser rate" (Merrick 2010). According to an April 2010 edition of *The Citizens Pipeline* (the Citizens Energy Group newsletter)**,** Mayor Greg Ballard signed an MOU

on March 2010 to transfer the water supply utilities to Citizen's Energy Group, which operates like "a not-for- profit for community benefit." Mayor Ballard presented the agreement as a rejection of privatization, claiming that the City's "water and wastewater utilities will no longer be a political football." According to a report in the *Indiana Economic Digest*, the sale was motivated by the need to generate funds for general infrastructure improvements to roads, bridges and sidewalks (O'Malley 2010). The Mayor also promoted the deal as a means of generating savings, with the expectation of "25 percent lower combined water and wastewater rates than previously projected had the utilities not been sold" (O'Malley 2010).

While Veolia will no longer have a role in water management, the "Citizens Energy Group will make job offers to 'substantially all' of Veolia's 436 employees at the water utility", and Veolia will be compensated for the premature termination of the contract with a $29 million fee (O'Malley 2010). According to the *Building Indiana Blog* (the blog of the *Building Indiana* magazine, a local construction and development publication) Indianapolis's water system is currently "governed by the Board of Waterworks and operated in a partnership with Veolia Water…After the transfer, the water and wastewater utilities will be governed by the Citizens Energy Group Board of Directors…..[and] further accountability will be assured because utilities under Citizens are regulated by the Indiana Utility Regulatory Commission (IURC), and other agencies including the Indiana Department of Environmental Management and U.S. EPA." (http://www.buildingindianablog.com/2010/03/10/citizens-to-take-over-indy-water-utilities/). United's contract will continue to run until its expiration in 2018, but under the authority of Citizens Energy (O'Malley 2010).

So while selling the City's sewer treatment facility to United appears to have been a relatively smooth process with little controversy, the privatization of Indianapolis's drinking water proved just as problematic as in Atlanta. At this stage, the media and anti-privatization NGOs, such as *Food and Water Watch*, blame Veolia for failing to meet expected targets and for poor service delivery, citing similar outcomes in cities around the world where Veolia operates (Kellman 2010; Food and Water Watch, April 2011). To date there has been no discussion about whether the contract itself was flawed; nor has there been a comparison with the United contract for the City's wastewater. It is clear that the sale of Indianapolis water back to Citizens energy was another attempt to manage the City's ongoing financial stress. One other possibility is that, the costs of drinking water systems are rising more rapidly than those of sewage treatment. As the sources of drinking water become more degraded and increased treatment is required, the costs of that treatment may well be growing. Another is that in the anti-tax tea party political environment we now see, any increase in costs is subject to intense opposition.

Conclusion

More than any other make-or-buy decision, turning over the management of water services to private companies is fraught with ideological considerations. Many believe water is a right and, as such, water service provision is best carried out by the government (Bailey 2005). Another way to view it is that government is responsible for ensuring that all citizens have easy access to pure, safe, and

affordable water. Government may determine that it is more efficient and effective to employ private organizations to deliver the water service. In the case of Atlanta, the failure of the United Water contract is as much a story of a government failing to properly execute its contract management and regulatory responsibilities as it is the failure of a private company to provide the water services it promised the people of Atlanta. In Indianapolis, United's maintenance of the wastewater utility has continued without contention, however Veolia's contract to operate the drinking water utility met a similar fate to that of United in Atlanta. The Indianapolis case demonstrates the complexity of privatizing public utilities, and that even within one city two private contracts can have entirely different outcomes. Handing control of community drinking water to a private company is a particularly sensitive policy decision that, even if the contracting is handled competently and effectively , political opposition to increased costs can create difficulties.

Despite the best efforts of governments around the world, a billion people lack access to sufficient, affordable drinking water. One analyst has estimated that to meet this unmet need, the financial resources devoted to water infrastructure would have to double (Payen 2006, 25). Public-private partnerships, private and public investments, increases in water rates, and new technologies will all be used to meet these needs. Improved contracting processes and better contracts for water services will be needed for privatization to succeed. Government will also need to do a better job of monitoring and enforcing the terms of those contracts.

Sources:

Bennett, D.L. Audit slams Atlanta water billing, shutoffs. *The Atlanta Journal-Constitution*. August 31 2009.

Bennett, D.L.. Atlanta water, sewer rates among the nation's highest. *The Atlanta Journal-Constitution.* October 5 2009a

Food and Water Watch. Smorgasbord - news bites and blogful commentary: Indianapolis. Available at: http://www.foodandwaterwatch.org/studies/indianapolis-in/

Food and Water Watch. April 20th 2011. Veolia Environnement's Profits Shrink as Communities Across the Globe Remunicipalize Water Contracts and Company Fails to Secure Long-Term Leases. Available at: http://www.foodandwaterwatch.org/pressreleases/veolia-environnement%E2%80%99s-profits-shrink-as-communities-across-the-globe-remunicipalize-water-contracts-and-company-fails-to-secure-long-term-leases/

Food and Water Watch. Veolia: A Closer Look. September 2010.

Kellman, Steven. 9 February 2010. Liquid Assets: Tide Turns Against Privatization of City Water Systems. *Circle of Blue: Water News.* Available at: http://www.circleofblue.org/waternews/2010/world/liquid-assets-tide-turns-against-privatization-of-city-water-systems/)

Letter from Stuart & Irwin Attorneys at Law. Re: Veolia Water Class Action Lawsuit, Marion County Superior Court No. 1 Cause No. 49D01-0804-CC-018081: May 8, 2008 and January 3, 2011. Available at: http://www.silegal.com/cases/veolia/archives

Merrick, Amy. Cash Flows in Water Deals. *Wall Street Journal* August 12 2010.

No author. Indianapolis Terminates Contract with Veolia. *American Water Intelligence* Vol. 1, Issue 3 (December 2010) Available at: http://www.americanwaterintel.com/archive/1/12/general/indianapolis-terminates-contract-veolia.html

O'Malley, Chris. Veolia losing Indianapolis water contract, will get $29 Million in termination fee. *Indiana Economic Digest* 1st November 2010.

Suggs, Ermie. Atlanta's watershed commissioner resigns. *The Atlanta Journal-Constitution*. September 7 2010.

The Citizens Pipeline. Mayor Ballard Announces Plans to Transfer Indianapolis Water and Wastewater Utilities to Citizens. April 2010.

WATER ONLINE

News | June 10, 2003

Atlanta-Fulton County Water Resources Commission And USFilter Partnership For Water Services Wins Best Operated Surface Water Treatment Facility In Georgia

Public-Private Partnership for Water Services Proves Beneficial to More than 500,000 People

ATLANTA – For the sixth time, the water partnership between the Atlanta-Fulton County Water Resources Commission (AFCWRC) and USFilter Operating Services (USFilter)/Khafra Engineering Consultants (Khafra) has won Georgia's "Best Operated Surface Water Treatment Facility" of the year by the Georgia Water and Pollution Control Association (GWPCA). The facility, located in Alpharetta, again won in the greater than 15-million-gallons-per-day (MGD) surface water treatment facility category.

"Winning this award is a testament to a well-run facility and that a public-private partnership can work," said Michael J. Leonard, general manager for the AFCWRC, which provides interface to representatives of the city of Atlanta and Fulton County for the management of both short-and long-term water plans affecting the area. "This award further highlights the dedication, pride and professionalism of our staff. Stewardship of our most precious resource is not just a job – it is a mission."

The GWPCA judged the water treatment facility on quality control, safety, equipment monitoring, facility maintenance, plant operations and other miscellaneous criteria. Established in 1932, the GWPCA is a not-for-profit association comprised of more than 5,000 members of professionals who implement state and federal water supply, water protection, and water resources laws and regulations.

More than 500,000 citizens in northern Atlanta and northern Fulton County have benefited from the water partnership between USFilter/KHAFRA and the AFCWRC since it began delivering potable water in 1991. USFilter and Atlanta-based Khafra provide operation, maintenance and administrative services for the AFCWRC's 90-MGD surface water treatment facility, raw pumping station and 480 million gallon reservoir.

The partnership has enabled citizens of the greater metropolitan area of Atlanta to receive the highest-quality drinking water while generating significant savings in operations and maintenance costs through efficiencies such as reductions in electrical and chemical consumption through process optimization. The USFilter/KHAFRA team also provided solutions for maintenance optimization of facility processes and support equipment, thereby increasing the operational life span of equipment and reducing capital replacement costs.

Additionally, the USFilter/KHAFRA team completed, in conjunction with the U.S. EPA and the American Water Works Research Foundation (AWWARF), two pilot-test programs. The joint- sponsored studies focused on microfiltration treatment of backwash water and the impact of water quality on the inactivation of bacterial and viral pathogens. USFilter/Khafra, along with the AFCWRC, plan to participate in a third AWWARF study entitled "natural organic matter fouling of low pressure membrane systems."

"Receiving this award is important to USFilter because it clearly demonstrates our dedication to operational excellence and to providing exceptional services to the residents of greater Atlanta," said Ron Davis, USFilter Operating Services executive vice president and general manager. "For more than 30 years, public-private partnerships have delivered municipalities rate stability, improved water quality and enhanced infrastructure while guaranteeing environmental compliance and generating significant savings. In fact, today more than 1,000 municipalities nationwide benefit from water partnerships."

The successful USFilter/Khafra and AFCWRC public-private partnership was the first water partnership of its kind in the Atlanta area. Most recently, USFilter entered into a public-private partnership with the city of Atlanta for the development and management of an innovative, city-wide program that will produce Class A biosolids. The program will recycle 90 percent of wastewater solids and sludge from the city wastewater treatment plants, greatly reduce the use of city incinerators and produce an environmentally friendly fertilizer for Atlanta residents at no cost for residential use.

United States Filter Corporation, a Veolia Environnement company, is North America's leading water company providing comprehensive water and wastewater systems and services to commercial, industrial, municipal and residential customers. Veolia Environnement (Paris Bourse: VIE and NYSE:VE) is the largest environmental services company in the world with more than 295,000 employees, including FCC, in about 100 countries and annual revenues of more than $31.5 billion. Visit the company's web sites at www.usfilter.com or www.veoliaenvironnement.com.

Important Disclaimer. Veolia Environnement is a corporation listed on the NYSE and Euronext Paris. This press release contains "forward-looking statements" within the meaning of the provisions of the U.S. Private Securities Litigation Reform Act of 1995. Such forward-looking statements are not guarantees of future performance. Actual results may differ materially from the forward-looking statements as a result of a number of risks and uncertainties, many of which are outside our control, including but not limited to: the risk of suffering reduced profits or losses as a result of intense competition, the risk that changes in energy prices and taxes may reduce Veolia Environnement's profits, the risk that governmental authorities could terminate or modify some of Veolia Environnement's contracts, the risk that Veolia Environnement's compliance with environmental laws may become more costly in the future, the risk that currency exchange rate fluctuations may negatively affect Veolia Environnement's financial results and the price of its shares, the risk that Veolia Environnement may incur environmental liability in connection with its past, present and future operations, and the risks related to Veolia Environnement's relationship with Vivendi Universal, as well as the risks described in the documents Veolia Environnement has filed with the U.S. Securities and Exchange Commission. Veolia Environnement does not undertake, nor does it have, any obligation to provide updates or to revise any forward-looking statements. Investors and security holders may obtain a free copy of documents filed by Veolia Environnement with the U.S. Securities and Exchange Commission from Veolia Environnement.

New Orleans Water Privatization Bids Defeated

Public Citizen | For Immediate Release: Oct. 16, 2002 | Contact: Wenonah Hauter (202) 454-5150, Erica Hartman (202) 454-5174

Consumer Advocacy Groups Laud Board's Decision

WASHINGTON, D.C. - Citizens won a landmark victory over corporate greed today when the largest proposed municipal water privatization in the nation was rejected by the New Orleans Water and Sewerage Board. The vote's repercussions will ripple through the nation as consumer advocate groups fight to keep water in the public trust, Public Citizen said.

"Corporations trying to privatize the nation's water supply were counting on New Orleans to serve as a model and pave the way for other privatization efforts from coast to coast," said Wenonah Hauter, director of Public Citizen's Critical Mass Energy and Environment Program. "But after years of consideration, New Orleans citizens and officials determined that the public's water should be kept in public hands."

Public Citizen, ACORN and the Service Employees International Union (SEIU), Local 100, organized a coalition of 90 churches, civic organizations, seniors groups and environmental groups that opposed privatization. They defeated USFilter and United Water, subsidiaries of French conglomerates Vivendi Universal and Suez, respectively, which spent lavishly on public relations campaigns and lobbied hard as they competed to secure a 20-year, billion-dollar contract to operate water and sewer systems in New Orleans.

"We believe that we proved to the S&WB the depth and strength of our broad-based coalition," said Wade Rathke, chief organizer for the SEIU. "The size of our coalition and the outpouring of support from the neighborhoods, workers and all segments of the community sent the board a message that was unmistakable: Vote no, and they did."

Water privatization can foster corruption and result in rate hikes, inadequate customer service and a loss of local control and accountability. Corporations have used rate hikes to maximize profits, which, by definition, is their reason for existing, Hauter said. An improved

bottom line often comes at the expense of water quality and customer service, but not at the expense of maintaining inflated executive salaries. Further, this vote is another blow to Vivendi's already-shaky financial standing.

"The power of citizens'voices should never be disregarded when they unite to fight against corporate influence," Hauter said. "The people in New Orleans have spoken and have resoundingly said no to privatization. We hope Vivendi and Suez are listening to those voices today."

Public Citizen is a nonprofit consumer advocacy organization based in Washington, D.C.**Public Citizen:** ()

RFP # BU0313-1504

Title: Financial Advisory Services for the Nassau County Sewer System

AMENDMENT #1

This amendment has been issued to provide potential proposers with a summary of the:

Agreement for the Operation and Maintenance of
the Nassau County Sewer System
by and between
United Water Long Island Inc.
and
The County of Nassau, New York

All other terms and conditions remain the same.

Dated: March 20, 2015

Summary of Nassau County Sewer System Operation and Maintenance Agreement

Parties	1) County of Nassau 2) United Water Long Island Inc. (Special Purpose Entity)
Term	Initial Term: 20 years Renewal Terms: By mutual agreement of the parties in accordance with Applicable Law. Agreement Date: Date of execution following all approvals. Transition Period: Mobilization and transition from County operation to Company operation. Operation Date: Date Company begins operating, anticipated to be approx. 120 days following Agreement Date (January 1, 2015).
Guarantor	United Water Inc., U.S. parent of United Water Long Island Inc. ($3.3 billion assets, $1.2 billion net worth)
System Description	Main Sewer Treatment Plants - 3 Treatment Plant Capacity (MGD) - 147.5 Sewage Pump Stations - 54 Miles of Sewers - 3,000 Number of Manholes - 64,000 Individual service connections - 300,000 Population Served - 1 million Bay Park, East Rockaway, NY • Treatment Capacity - 72 MGD • Sewage treated per day - 50 MGD • Serves 532,000 people Cedar Creek, Wantagh, NY • Treatment Capacity - 70 MGD • Sewage treated per day - 52 MGD • Serves 600,000 people Glen Cove, Glen Cove, NY • Treatment Capacity - 5.5 MGD • Sewage treated per day - 3 MGD • Serves 27,000 people • Currently operated by Severn Trent Environmental Services through August 1, 2020. • Will become a Managed Asset upon the expiration or termination of the Glen Cove Contract. County to retain stormwater system operation and maintenance responsibility.

Contract Services	Operation and Maintenance of Facilities: • Bay Park Facility • Cedar Creek Facility • Glen Cove Facility – as of August 1, 2020 o Manage until expiration/termination of Glen Cove Contract Operation and Maintenance of Collection Systems: • Bay Park Collection System • Cedar Creek Collection System • Glen Cove Collection System
Operation	• Company shall operate and manage the Managed Assets on a continuous twenty-four (24) hour per day, seven (7) day per week basis in a professional, efficient and economical manner, and shall collect, receive and treat Influent, produce and discharge Effluent, handle Residuals and operating wastes, transport and dispose or cause the transportation or disposition of Residuals and operating wastes, control odor, provide required information to each Relevant Authority, and otherwise operate and manage the Managed Assets in accordance with this Agreement so as to comply in all material respects with the Contract Standards and Applicable Law and to meet the Performance Guarantees.
Maintenance, Repair and Replacement	• Company is responsible for paying the first $50,000 of each Maintenance Event. • Annual budgeted maintenance amount of $3,000,000 included in the first year's Base Service Payment to provide for the necessary Maintenance, with five-year look back to adjust future budgeted maintenance amount. • Company shall perform and record all normal and ordinary maintenance of the Managed Assets and shall keep the Managed Assets in good working order, condition and repair. • Company shall provide or make provisions for all labor, materials, supplies, equipment, spare parts, Consumables and services which are necessary for the normal and ordinary maintenance of the Managed Assets and shall conduct predictive, preventive and corrective maintenance of the Managed Assets, which includes repairs and replacement of the Managed Assets. • Company shall be responsible for non-routine maintenance of the Managed Assets and shall be responsible for

	removing any blockages contained in such Managed Assets that restrict their use and function. • Company shall conduct scheduled inspections and routine cleaning of the Wastewater Collection System, which shall not be subject to the Maintenance Threshold or the Annual Budgeted Maintenance Amount.

As-Is Risk	• Company assumes "as-is, where is" risk of the condition of the Managed Assets subject to following exceptions:
	  o (i) pre-existing Environmental Conditions (Hazardous Substances);
	  o (ii) geotechnical, archaeological or other subsurface conditions;
	  o (iii) any existing code violations;
	  o (iv) any latent defects of the Managed Assets, excluding the Initial Capital Improvements; or
	  o (v) any damage or defects to or conditions at the Sandy-Impacted Assets (Bay Park Facility and 33 identified pump stations only) arising from the effects of Superstorm Sandy.
	• Company has one year to identify any code violations, latent defects or Sandy damage and once the due diligence list is agreed to, County will correct such issues as Capital Improvements.
	• After one year due diligence period, Company responsible for the costs associated with any additional code violations, latent defects or any additional Sandy-related defects, up to the Company's Maintenance Threshold.
	• One year due diligence period will apply at Glen Cove Facility for existing code violations and latent defects once it becomes a Managed Asset.

Industrial Pretreatment Program	• County retains responsibility for IPP program. • Company to perform Influent sampling at each Facility for pollutants subject to IPP.
Operations Monitoring	• Company to provide monthly written reports detailing operation and maintenance of the System. • Monthly meetings between County and Company to review operations, reports, etc. • County may perform annual inspection of the System. • Every fifth year, there shall be a full-scale inspection and review of the state of repair, working condition and performance capability of the Managed Assets to permit the County to determine on a comprehensive and focused basis whether the Company is performing Maintenance.

Residuals Disposal	• Perform all sludge and other process residuals treatment, management, and disposal services, including grit, screenings and any other process residuals. • Deliver sludge in accordance with sludge management and disposal contract requirements. • Company to manage Mascaro Contract for sludge disposal until expiration on February 18, 2018. Following expiration, Company responsible for all sludge hauling and disposal responsibilities.
Personnel	• Company not required to hire any existing County sewer employees. • Company proposes to operate with 140 employees plus management. • Staffing plan at Company's sole risk for all required approvals. • Company to pay prevailing wage in accordance with Applicable Law. • Company guarantees savings of $10,000,000 on County System Employee costs through a combination of (i) directly employing County System Employees, and (ii) utilizing the services of certain County Assigned System Employees who shall remain County employees. • Utilization of County Assigned System Employees shall be in accordance with all collective bargaining agreement privileges and requirements.
Service Fee	• Base Service Payment subject to annual CPI/ECI escalation – $57,366,000 • Variable Component consisting of the flows and loadings adjustment, natural gas savings element, and diesel fuel savings element • Pass-Through Costs – for any real property taxes paid • Extraordinary Items Charge or Credit – additional payments or credits for either party required under the Agreement
Guaranteed Maximum Utility Consumption	County to purchase Natural Gas and Diesel Fuel for use by the Company during the Term Natural Gas Guaranteed Maximum – 875,000 dekatherms • Below 875,000 – Parties share savings 50/50 • 875,000 – 910,000 – County pays for natural gas • 910,000 – 1,000,000 – Parties share costs 50/50

	extent reasonably forced on the Company by the event, and the Company shall perform all other Services. • Party asserting a UC must provide notice within 15 days of when they first knew of the occurrence and take steps to mitigate and limit any damages resulting from the UC. • Company responsible for first 10% of costs of each UC up to a yearly maximum of $100,000 in each Contract Year.
Dispute Resolution	• Parties must negotiate any dispute in good faith and if cannot be resolved within 10 days, the dispute shall be referred to a coordination committee. • Coordination committee consists of three representatives from each Party who will try to resolve the dispute. If not resolved within 20 days, parties may pursue legal remedies. • Disputes requiring an independent engineer shall be referred to such engineer. • Parties will mutually agree to an independent engineer or alternatively each Party will designate one such engineer and the engineers will designate a third engineer. • Independent engineer shall render a decision within 20 days.
Insurance	• Company to provide the following insurance policies: o Commercial General Liability Coverage o Comprehensive Automobile Liability Coverage o Workers' Compensation Insurance o Umbrella Liability Coverage o Pollution Liability Coverage o Professional Liability Coverage • County to provide fire, property and boiler and machinery insurance or self-insure for such coverage.
Events of Default	• Company Events of Default not requiring notice and cure opportunity: o Failure to maintain and provide Security for Performance o Failure to comply with effluent requirements on more than four occasions in any 12 month period o Abandonment o Insolvency o Bankruptcy – voluntary or involuntary o Default of Guarantor o Reduction in Guarantor Net Worth o Improper assignment o Failure to maintain required insurance

	• Company Events of Default requiring notice and cure opportunity:
	  o Representations and warranties
	  o Failure to pay amounts due or perform obligations
	  o Failure to comply with subcontractor obligations
	  o Violations of applicable law
	• County Events of Default all require notice and cure opportunity:
	  o Representations and warranties
	  o Failure to pay any fee – limited cure period
	  o Failure to perform material obligations
	  o Failure to fund ICI or any Capital Improvement
	  o Bankruptcy – limited cure period

Termination	• County may terminate agreement for Company Default, after stated notice and cure opportunity where required. • Company may terminate agreement for County/Authority Default, after stated notice and cure opportunity. • Either Party may terminate after one year due to an Uncontrollable Circumstance if no agreement can be reached by the parties. • If County terminates for Company Default, County has right to seek all legal and equitable remedies provided by law. • If County terminates for convenience (beginning in Year 6), County will pay Company liquidated damage payment. • If Company terminates pursuant to event of default by County, County will pay Company liquidated damage payment. • Liquidated damage payment schedule begins at $30 million for Years 1-6, with such amount decreasing annually by $2 million (Year 7 = $28 million, Year 8 = $26 million, etc.)

Security for Performance	• Company Guaranty
	  o United Water Inc., U.S. parent to guaranty payment and performance obligations.
	  o Guarantor to maintain net worth of $500 million as of December 31 of each year.
	  o In the event Guarantor's net worth falls below $500 million, Company to provide new Guarantor with net worth of at least $750 million.
	• Operations Performance Bond
	  o Company to provide an annual performance bond equal 25% of one year's Base Service Payment, as such amount is adjusted annually, to secure the full

	and timely performance of the Services and the payment of labor, outside services, and supplies required for the Services.
	• Letter of Credit
	  o Company to provide an irrevocable direct pay letter of credit issued by a commercial bank, with satisfactory debt rating and subject to federal or New York State banking regulatory jurisdiction in amount of $3,000,000, subject to yearly escalation.
	  o County may draw upon LOC for non-renewal, bankruptcy or default.

Panel Readings V: Concession Lease Partnerships

1. Public-Private Showdown: Which Water Utility Model Is Best?
2. Water System Concessioning Process Diagram
3. Can Private Sector Partners Help Resolve Stormwater And TMDL Permit Gridlock?
4. Middletown approves 50-year water, sewer lease with United Water
5. In American Towns, Private Profits from Public Works
6. U.S. Citizens Increasingly Spur Water Privatization
7. When Does Privatization of Municipal-Owned Water Systems Make Sense?
8. Cashing In On Crumbling Infrastructure
9. UNC Report: Bayonne Water and Wastewater Concession Agreement

WATER ONLINE

News Feature | August 17, 2015

Public, Private Showdown: Which Water Utility Model Is Best?

By Sara Jerome
@sarmje

Which are more effective: public or private utilities?

A new paper published in the *American Journal of Political Science* stacks these two models against one another. It sums up the key difference between these two types of utilities by noting that one is a for-profit firm regulated by government agencies, while the other is a government agency regulated by government agencies. It argues that the latter model proves problematic, since governments are not great at regulating government agencies.

Still, the paper does not argue for the privatization of water utilities. That model also presents problems, the researchers said.

"We argue that government agencies have greater incentives than profit-maximizing firms to shirk regulation and/or seek regulatory relief through political channels. As a test of this theory, we analyze public and private entities' compliance with three U.S. pollution control laws: the Clean Air Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act. Analysis of data covering the period of 2000-2010 indicates evidence consistent with our argument," the paper says.

Written by professors from Georgetown University and Texas A&M University, the paper lists drawbacks to the public model: "Its reliance on public support can compromise its ability to make crucial infrastructure upgrades. As a result of poor funding, public utilities can also fail to meet federal public regulations. And yet regulators are more lenient with them than with private utilities, since harsh punishment only further hurts the public," the paper argues, according to *The Atlantic* 's *CityLab*.

Key drawback for public water utilities are the political processes they must engage in, *Citylab* reported:

> *When public utilities try to increase their rates to pay for an infrastructure update or a new treatment plant, city council members or local commissioners have to vote to approve those rates. Those voting officials are tied to a constituency.*
>
> *For example, about 85 percent of Americans get their water from a public utility, whether from a city, county, or special district. Particularly in the dry states of the West, water rate increases are a hot potato for local officials. Residents of one tiny, poor town in Fresno County, California recently voted down a proposed $30 monthly increase to their water bills — even though it may mean having their taps turned off. That story has become a well-publicized political minefield.*

Public utilities struggle to find the money needed for infrastructure spending. So, should public water utilities be privatized, according to these authors? Not exactly.

"We're really hoping this paper doesn't cause people to say, 'Privatize! Privatize!'" Konisky said, per *Citylab*. "Because that is a potential solution to these violations, but not the only solution."

There are drawbacks to the private model as well, *Citylab* reported:

> *Indeed, because private utilities prioritize their investors rather than their customers, they have little incentive to create, for example, tiered rate structures that are crucial for low-income households. "Low-income pricing schemes and rebate schemes and retrofitting — those are not going to be something the investor engages in, unless they have that in their contract with the municipality," says Teodoro.*
>
> *Public utilities do another thing that private utilities have little incentive to do: conserve. To use the example of water again, Americans' per capita daily water use has plummeted in the last several decades — largely a triumph of conservation efforts by public utilities. "In what other business do people say, 'Please buy less of our product'?" says Teodoro. "No private utility would ever do that."*

Given the problems on both sides, what solutions are available? *Citylab* enumerated a few: "create subsidies for local governments so that they can get up to capacity without raising rates; ramp up enforcement from federal regulators; or, turn to private companies. But as for the last option, in this increasingly dry, overheating, and economically divided world, there are just too many drawbacks."

For similar stories, visit Water Online's Funding Solutions Center.

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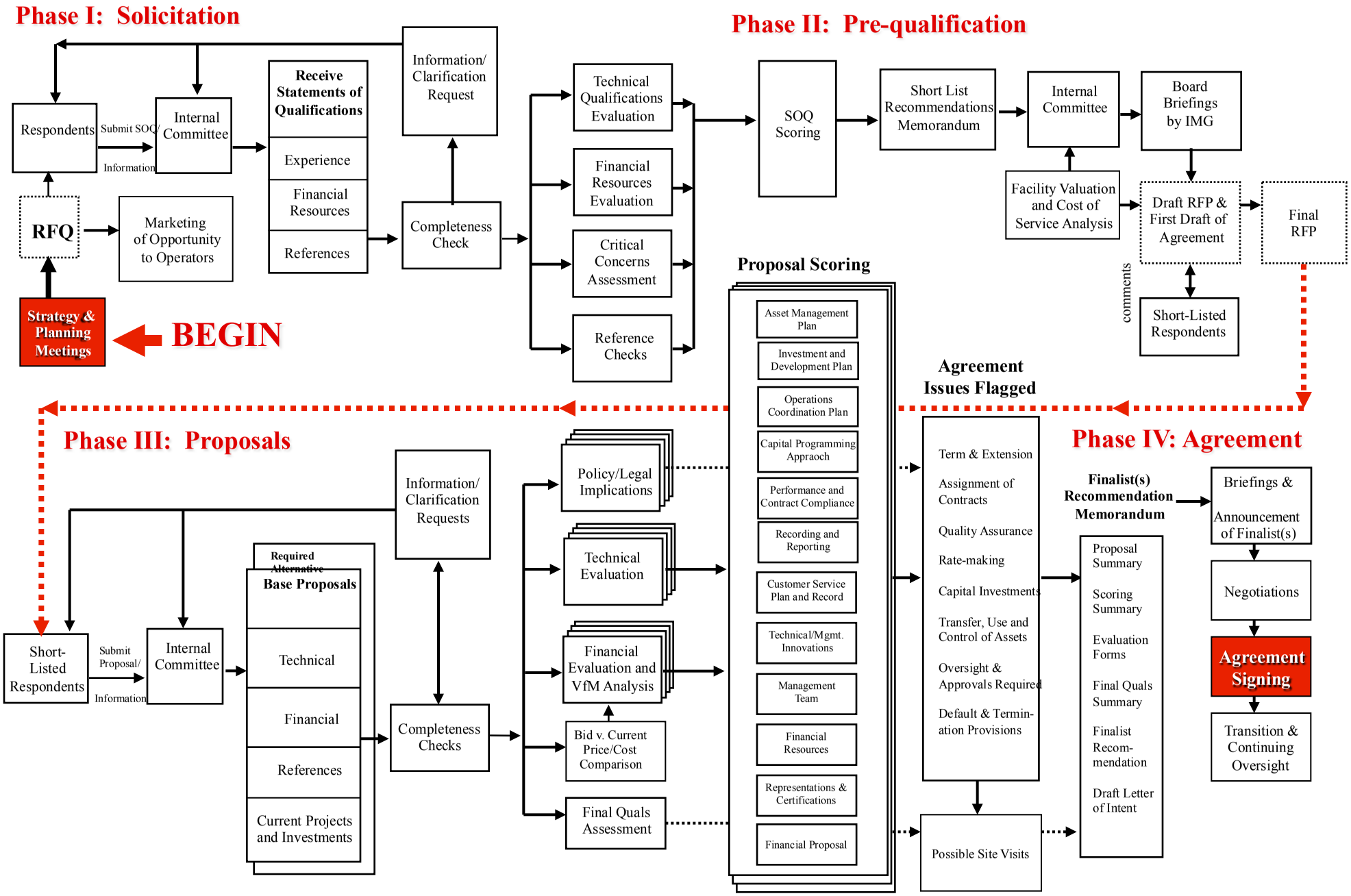
A Possible Concession Process



WATER ONLINE

Guest Column | March 9, 2015

Can Private Sector Partners Help Resolve Stormwater And TMDL Permit Gridlock?

Total maximum daily load (TMDL) programs are necessary, but not always effective — due in large part to institutional obstacles in the public sector. The private sector may offer a more workable solution.

By Kirk Mantay, habitat restoration ecologist and certified Professional Wetland Scientist

The time, resources, and effort spent trying to restore and repair American waterways can now be measured in decades (four) and dollars (billions). Yet, we are not making the progress we should be. Disagreement and stalemates frequently occur between regulatory agencies and permittees, preventing mandatory programs from advancing — to say nothing of innovative approaches for retrofit and restoration. Too often, project proposals stall when interagency staff impose conflicting requirements — or simply refuse to act on permit applications. However, the fact that this troubling situation exists and seems to repeat itself should not prevent the regulated community from aggressively pursuing waterway remediation.

An important human tool exists that is appropriate for this long-term task: the inclusion of private non-profit and for-profit corporations in these ongoing discussions as program partners, not simply regulated parties. Whether serving as mediators, project managers, or project funders, private third parties can alleviate gridlock and help negotiate better stormwater protocols to benefit the interests of the regulated community, the public resource, and regulators. What's clearly needed to advance TMDL implementation in particular is an ongoing set of closedloop, multiple party negotiations to explore all options in a way that accelerates regulatory compliance and meets minimum standards set by all parties.

Compliance Killers

At the municipal, county, and state level, considering the inclusion of private partners in interagency water policy discussions, especially those revolving around permitting processes, can be an effective way of resolving gridlock and achieving compliance. This is because private partners have a more focused set of goals (discussed later), and more expansive set of methods for program advancement. Conventional interagency mediation has resulted in some regulators, notably federal staff in regional offices, refusing to negotiate compliance measures and thereby refusing to allow TMDL (or other Clean Water Act programs) compliance to occur in the manner already

approved by another office of the same agency. Compliance — the shared goal — becomes the victim. In some cases, regulatory staff have tried to cancel or “kill” water resource enhancement projects previously funded and vetted by their coworkers in the same agency.

This type of gridlock can be alleviated by private third parties who negotiate towards a robust TMDL and stormwater compliance package that satisfies the interests of regulators and the regulated community, while also benefitting water resources. What’s clearly needed to advance the TMDL is an ongoing set of closed-loop, multiple-party negotiations to explore all remediation options, not only those preferred by regulatory staff, in a way that accelerates regulatory compliance and meets minimum standards set by all parties.

Private Sector Advantages

Non-profit conservation organizations, particularly watershed organizations, are well suited to these kinds of tasks because they are mission-driven and do not derive owner or board profit as a result of success. Focusing on a primary objective — local clean water — these groups employ scientists, planners, engineers, and even attorneys. These staff and their board members are versed not only in TMDL and stormwater policy but also have experience implementing ground-level compliance activities. Tools including process negotiation, scientific monitoring, and political advocacy on behalf of agency goals can be handled by local nonprofit organizations.

For-profit organizations, on the other hand, have a valuable ability to change course in dynamic political environments to prescribe actions that best benefit compliance partners without needing to change law or policy. For-profit partners are valuable stakeholders because they can quickly assemble solutions and resources (procedural, regulatory, scientific, financial, and on-the-ground) that can be utilized to resolve permit gridlock if all parties are acting in good faith. Typically, for-profit corporations can be used to advance practice and policy where agencies are politically unable to do so.

"For-profit partners are valuable stakeholders because they can quickly assemble solutions and resources... that can be utilized to resolve permit gridlock if all parties are acting in good faith."

Meaningful private sector input changes the dynamic of effort prioritization, if nothing else. As defined by negotiation experts over the past several decades, effective private sector parties can add power sources not always present within public agency debates, including the desire for legitimacy, the willingness to accept risk, and the desire to achieve mission (or retain clients) through repeated successful efforts that meet regulatory scrutiny. When gridlock occurs, it is often a result of some combination of permit agency inflexibility and permittee agency inaction. The next time (likely today) you experience permit gridlock, consider engaging private partners. You may find that the partnership brings to light new opportunities, new energy, and new techniques to accelerate compliance.

About The Author

Middletown approves 50-year water, sewer lease with United Water

Middletown Borough Council and Middletown Borough Authority have approved an agreement to lease out the borough's water and sewer systems to a partnership of private companies. Officials voted on the agreement during a meeting Monday night at the MCSO Building on W. Emaus St. in the borough. *(Julianne Mattera | jmattera@pennlive.com)*

By **Julianne Mattera | jmattera@pennlive.com**
Email the author | **Follow on Twitter**
on September 29, 2014 at 11:28 PM, updated September 30, 2014 at 7:29 AM

Middletown officials have approved an agreement that will lease out its water and sewer systems to a partnership of private companies for 50 years.

That agreement with United Water Inc. of Harrington Park, N.J. and financial partner KKR & Co. L.P. of New York includes a $43 million upfront payment to the borough, as well as annual payments, Councilman Ben Kapenstein said.

While some residents expressed concerns with the public-private lease prior to Borough Council's and Middletown Borough Authority's votes on the agreement, Kapenstein called it a "good decision" in the "long term."

"I'm happy with the outcome of the vote. I think the citizens got a good deal," said Kapenstein, a member of the lease exploration committee. "This decision wasn't taken lightly. I've been over every detail, and I really feel that in the long term, we made a good decision."

Borough Council voted 7 to 2 in favor of the agreement, with council members Tom Handley and Anne Einhorn voting in opposition to it. On the borough authority, member AB Shafaye was the sole member out of five that voted against the lease.

Handley — who explained his position during the meeting prior to the vote and afterward in an interview with PennLive — said he's never been in favor of the borough losing an asset that it owns, and local residents also are opposed to it. Additionally, he said most residents want to keep local control of the systems, and he agreed with that.

Handley also questioned whether the decision made Monday night would set a trend that could be repeated in the future.

"What happens five or 10 years down the road if we incur the debt from this point forward? Are we going to have to sell off some other asset? I believe this kind of sets ... the stage for doing that again," Handley said.

Up until now, the Middletown Borough Authority has owned the assets that make up the borough's municipal water and wastewater systems, and it leases the system to the borough. The borough's electric department, Handley assumed, could be the next asset in the future to go.

Middletown borough solicitor Adam L. Santucci said the parties aim to close on the agreement on or before Jan. 1.

Prior to the vote, Santucci said the two other companies who had submitted responses to the borough's request for proposals on the lease dropped out in the weeks leading up to the bidding process. Those companies — Aqua Resources Inc. of Bryn Mawr, and Severn Trent Services of Fort Washington — dropped out of the deal because they didn't think they would make any money.

United Water made **an initial bid on the lease Sept. 19** and then a final bid on Saturday, Santucci said.

Kapenstein has said such a lease would cover an estimated $10.8 million in unfunded pension and post-retirement employee benefit liabilities held by the borough; the borough and authority's $21.8 million in water/sewer debt from construction projects and upgrades to the systems; and $3.8 million in the borough's general obligation debt.

Monday night, Kapenstein estimated the borough had roughly $26.2 million in debt — "after the deal ... we'll be debt free," he said.

Five borough employees in the Department of Public Works would be eligible to be transferred from the borough to work under United Water. The last of the six borough employees impacted by the lease will be kept by the borough to administer the contract, Kapenstein said.

Under the agreement, borough water and sewer rates can't be raised until 2019, Kapenstein said. At that time, any rate increases for the first 25 years wouldn't be able to go higher than a total of the consumer price index plus 2.5 percent of the rate. In the next half of the lease, the caps would include the consumer price index and 2 percent of the rate.

Mayor James Curry III also said borough officials have not taken the lease agreement lightly, and even he didn't like the idea at first.

Curry said, from what he understands, residents can't handle a tax increase or a change in their electric rates — two other options to fix the borough's finances.

But he said, "The money has to come from somewhere."

Sometimes elected officials have to make tough decisions, Curry said, and Monday's vote on the lease was one of them.

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In American Towns, Private Profits From Public Works

Desperate towns have turned to private equity firms to manage their waterworks.
The deals bring much-needed upgrades, but can carry hefty price tags.

By DANIELLE IVORY, BEN PROTESS and GRIFF PALMER DEC. 24, 2016

BAYONNE, N.J. — Nicole Adamczyk's drinking water used to slosh through a snarl of pipes dating from the Coolidge administration — a rusty, rickety symbol of the nation's failing infrastructure.

So, in 2012, this blue-collar port city cut a deal with a Wall Street investment firm to manage its municipal waterworks.

Four years later, many of those crusty brown pipes have been replaced by shiny cobalt-blue ones, reflecting a broader infrastructure overhaul in Bayonne. But Ms. Adamczyk's water and sewer bill has jumped so much that she is thinking about moving out of town.

"My reaction was, 'Oh, so I guess I'm screwed now?'" said Ms. Adamczyk, an accountant and mother of two who received a quarterly bill for almost $500 this year. She's not alone: Another resident's bill jumped 5 percent, despite the household's having used 11 percent less water.

Even as Wall Street deals like the one with Bayonne help financially desperate municipalities to make much-needed repairs, they can come with a hefty price tag — not just to pay for new pipes, but also to help the investors earn a nice return, a New York Times analysis has found. Often, these contracts guarantee a specific amount of revenue, The Times found, which can send water bills soaring.

Water rates in Bayonne have risen nearly 28 percent since Kohlberg Kravis Roberts — one of Wall Street's most storied private equity firms — teamed up with another company to manage the city's water system, the Times analysis shows. City officials also promised residents a four-year rate freeze that never materialized.

In one measure of residents' distress, people are falling so far behind on their bills that the city is placing more liens against their homes, which can eventually lead to foreclosures.

In the typical private equity water deal, higher rates help the firms earn returns of anywhere from 8 to 18 percent, more than what a regular for-profit water company may expect. And to accelerate their returns, two of the firms have applied a common strategy from the private equity playbook: quickly flipping their investment to another firm. This includes K.K.R., which is said to be shopping its 90 percent stake in the Bayonne venture, a partnership with the water company Suez.

Rich Henning, a Suez spokesman, said that "Bayonne had chronically underinvested in their water and sewer infrastructure, which has certainly contributed to rate increases during the past few years." He added, "We understand that these increases create stresses for ratepayers."

President-elect Donald J. Trump has made the privatization of public works a centerpiece of his strategy to rebuild America's airports, bridges, tunnels and roads. Members of his inner circle have sketched out a vision, including billions of dollars of tax credits for private investors willing to tackle big infrastructure projects. And Mr. Trump himself promised in his victory speech "to rebuild our infrastructure, which will become, by the way, second to none."

Private equity firms like K.K.R. have already presented themselves as a willing partner, and Bayonne provides an important case study. Its arrangement is one of

a handful of deals across the country in the last few years in which private equity firms have managed public water systems. While these deals are a small corner of private equity's sprawling interests, they represent the leading edge of the industry's profound expansion into public services.

For residents, the financial trade-offs from these water deals can be painful.

The Times analyzed three deals in which private equity firms have recently run a community's water or sewer services through a long-term contract. In all three places — Bayonne, and two cities in California, Rialto and Santa Paula — rates rose more quickly than in comparable towns, which included both publicly and privately run water systems. In Santa Paula, where Alinda Capital Partners controlled the sewer plant, the city more than doubled the rates. A fourth municipality, Middletown, Pa., raised its rates before striking a deal.

Now, some of these cities are trying to take back their water. Missoula, Mont., wrested away its water system, which had been owned by the Carlyle Group. Apple Valley, Calif., whose waterworks were also owned by Carlyle, has filed a similar lawsuit. Santa Paula bought its sewer plant from Alinda last year.

Of course, there's a reason many communities look for private partners to begin with: Their water systems are in poor shape. Budget shortfalls and political mismanagement can represent a real threat to both infrastructure and citizens. For evidence, look no further than the crisis in Flint, Mich., where the drinking water became tainted with lead.

"Keeping rates down may sound like the ultimate righteous good for ratepayers, but the truth is, not if you're failing to provide basic care and maintenance," said Megan Matson, a partner at Table Rock Capital, the boutique private equity firm that invested in Rialto's water and sewer system. She added that it helps for deals to "provide more obvious public benefits," noting that her firm partnered with Ullico, the nation's only labor-owned insurance and investment company.

Proponents of the public-private partnerships, citing recent studies in Canada and Europe, argue that private businesses operate more efficiently than governments do and that this translates into cost savings for citizens. And private

equity firms, lacking technical expertise in how to manage infrastructure, often team up with private water companies.

Supporters also say that the deals require private equity to spend millions of dollars a year to fix things (money that towns may not spend on their own), and that the firms sometimes pay towns millions more up front. Bayonne, for instance, got $150 million up front from K.K.R.'s team, which the city used to pay off a pile of debt.

In a statement, a K.K.R. spokeswoman said, "Our partnership has provided Bayonne residents with better service, modernized technology to detect leaks and conserve water, improved infrastructure and safer conditions for workers — all without a tax increase or public expenditure."

Desperate Measures

In Bayonne, a city of about 65,000 on a peninsula in the shadow of the fallen twin towers, a crucial test for its private equity deal came in July 2012. By then, Bayonne had already spent nearly a year haggling with some of K.K.R.'s top negotiators.

Next, city officials presented the deal to a more skeptical crowd: their own residents.

Bayonne's sales pitch to its citizens illustrates the bold steps town officials can take — including making promises that are at odds with the actual terms of the deal — to attract private equity money. Private equity, in turn, can earn significant returns.

At a public meeting in city hall, a lawyer for the city promised that, after an initial rate bump, there would be "a rate freeze for four years," according to a meeting transcript. Bayonne's mayor, Mark Smith, later reiterated the four-year freeze in a magazine article.

That promise turned out to be fleeting.

The contract allowed additional rate increases after only two years. There was

no four-year freeze.

In fact, rates rose even more than the Bayonne contract predicted — in part because K.K.R's team had to make unexpected infrastructure upgrades, but also because residents were using less water than expected. The contract guarantees revenue to the team — more than half a billion dollars over 40 years — so water rates have jumped, in part, to make up the difference.

The city said it saw the revenue requirement as a way for K.K.R.'s team to earn steady returns, but not a windfall.

But the Times analysis showed that Bayonne's water rates grew almost 28 percent under the deal, growth that far exceeded that of three other municipalities to which Bayonne has compared itself.

(Daniel Van Abs, an associate professor at Rutgers University who specializes in water management, said that a true apples-to-apples comparison of water rates in different towns was "extremely difficult" because of the different factors that can influence rates, including the size of the utility, the municipality's population, droughts and infrastructure investment — or lack thereof. The Times analysis for Bayonne did not include sewer rates.)

Former Bayonne officials who had promised the four-year rate freeze said in interviews that they had not meant to mislead residents. They said they had earmarked some of the K.K.R. team's $150 million up-front payment to offset rate increases in the contract's early years.

But then voters ousted Mayor Smith. And once he left office, the new administration put that money elsewhere.

"I think we could have accomplished that four-year minimum," the former mayor said in an interview. The town's water rates, he said, are now "exorbitant."

Tim Boyle, who took over Bayonne's utilities authority after Mr. Smith was voted out of office, said that various regulations required the city to use that money for property tax relief rather than to stabilize rates. He also blamed the previous administration for guaranteeing too much revenue to K.K.R.'s team in the early part of the deal, calling those figures "wildly optimistic."

Bayonne officials also stress the deal's benefits, including the up-front payment that let Bayonne pay off more than $100 million in old debts. Within three months, Moody's Investor Service revised the city's debt outlook from "negative" to "stable" for the first time in five years, and it has since upgraded the city's credit rating.

K.K.R.'s team contributes about $2.5 million annually to pay for repairs to water infrastructure, plus $500,000 to the city itself. K.K.R. and Suez said they have upgraded their safety equipment and replaced inoperable hydrants around town.

They also installed sophisticated water meters that can detect leaks in people's homes, and sent nearly 2,000 letters to customers warning when such leaks occurred. As such, use has declined, according to Mr. Henning, who said Suez had received "many notes of thanks" for the warnings.

But more-sensitive meters could lead to higher bills for some residents whose water use wasn't fully captured in the past. When negotiating the deal, K.K.R. called this process "meter uplift," according to emails obtained through records requests.

"We gave away too much," said Gary La Pelusa Sr., a city councilman and former commissioner of Bayonne's utilities authority, which approved the deal over his objections.

Bayonne originally promised residents that the city's utilities authority would oversee K.K.R. and Suez. But the City Council recently decided to shutter the agency and handle the oversight itself.

Stephen Gallo, who headed that authority when the deal was struck, still believes that it benefits Bayonne. "But you've got to watch them, you've got to keep an eye on things," he said. "I don't know who's doing that now."

In interviews with The Times, more than a dozen Bayonne residents, including Ms. Adamczyk, expressed dismay over the rate increases. One reason is that people who fall behind on payments face long-term risks: Unpaid water and sewer bills can be sold to investors who try to collect on that debt, a common practice across

the country. Failure to pay can ultimately lead to foreclosure.

In 2012, the year Bayonne struck its deal, water bill delinquencies led to 200 government liens against local properties, tax records show. That figure more than tripled the next year, the first full year under K.K.R.'s team. In 2015, the most recent year with data available, the number remained elevated, at 465.

The city publishes its lien notices in the local newspaper and residents receive mailed delinquency letters.

Still, when a reporter asked one Bayonne resident, Carlos Jimenez, about a water and sewer bill lien that had been listed against his property, he expressed surprise, saying he wasn't aware of it. "I didn't know this could happen," Mr. Jimenez said. "It's a different ballgame."

'There Is No "Free" Money'

One of the few things Republicans and Democrats can agree on is that the nation faces an infrastructure crisis.

In water infrastructure alone, the nation needs about $600 billion over the next 20 years, according to federal estimates. And yet federal spending on water utilities has declined, prompting state and federal officials to try to play matchmaker, courting private investors to fix what needs fixing.

For years, the Obama administration has been cheerleading public-private partnerships. In a statement, the White House said it backed them "when they are well structured, include strong labor standards, and when there is confidence that taxpayers are getting a good deal."

During the presidential campaign, Mr. Trump's team outlined a new plan to incentivize private investors to take on large infrastructure projects.

Wall Street has responded to the call to action. There are now 84 active financial infrastructure funds, according to Pitchbook, a private financial data platform, up 25 percent in just three years. Some belong to big banks like Goldman Sachs, but many are run by private equity firms.

“Across our country, we need solutions for infrastructure deficiencies,” said James Maloney, a spokesman for the American Investment Council, the private equity trade group. “Private equity serves as one of these solutions.”

Some critics are wary of expanding private investment in public infrastructure. Although cities may get cash up front in these deals, “there is no ‘free’ money” in public-private partnerships, says a 2008 Government Accountability Office report. Using roads as an example, the report observed “it is likely” that tolls will increase more on a privately operated highway than one run by the government.

Ms. Matson, of Table Rock, who has attended White House meetings on infrastructure, has tried to dispel concerns about these deals. Table Rock is part of a team that finances and manages the water system in Rialto, Calif., a deal that provided the city about $41 million to improve the water and wastewater infrastructure, she said.

Rialto residents have seen their water rates increase about 68 percent since the deal, according to the Times analysis, more than any other comparable city. But Table Rock said rates were artificially low after the city had declined to raise them for about a decade, giving it the lowest rates among those towns. And unlike in most other deals, Rialto residents had a say in the increases and ultimately approved them in a public vote, as required under state law. This year’s rate increase was delayed.

When the deal closed in 2012, all the public water utility employees kept their jobs. Everyone has since received raises. And Table Rock, like its partner Ullico, has committed to all 30 years of the arrangement.

“We don’t do flips, we invest for life,” Ms. Matson said, meaning that Table Rock doesn’t seek quick profits by unloading its investments. She also said that Table Rock declined to make deals that provided big up-front payments to towns without a sufficient commitment to infrastructure repairs. “Those deals give the rest of us a bad name,” she said.

Gaining Control, but Then What?

In an upscale Washington, D.C., restaurant in 2012, an executive from the

Carlyle Group, one of the world's largest private equity firms, put his arm around the mayor of Missoula, Mont.

"Mayor," the executive said, "are you ready to buy a water system?"

Three years later, the comments by the executive, Robert Dove, were recounted from a witness stand in the Missoula County Courthouse. The city was suing Carlyle, which ultimately refused to sell to Missoula, to gain control of its water system.

Missoula is one of several places in recent years that have tried getting back their water systems from a private company. But after waging costly battles, the towns cannot always guarantee the same services at lower rates.

At the time of that dinner in Washington, Missoula was the only city in Montana that did not own its water system — and John Engen, Missoula's mayor, wanted to change that. So, months before, he had supported Carlyle's purchase of the regional water company (Park Water) that owned Missoula's local system (Mountain Water), believing that Carlyle would then sell Mountain Water back to his town.

But the mayor's plans derailed.

In October 2013, Missoula made an informal offer to buy its local system. Carlyle declined. Missoula made a formal offer. Carlyle declined again.

Missoula then sued, and it won. But the court decided the system was worth $88.6 million, substantially more than what the city had offered. On top of that, the city must spend millions of dollars on legal and other fees and must also pay some of its opponents' costs, according to court records.

Those costs included lawyers' fees, limo services and dinners at some of Missoula's finest restaurants. They also included at least one order of boneless chicken wings at Hooters, and one bottle of Metamucil.

In a statement, a Carlyle spokesman said that the firm had considered the city's offers in good faith. "The city offered many millions less than the company was worth, and an independent panel agreed," the spokesman said.

He also said that under Carlyle's watch, "capital expenditures more than doubled, leakage was reduced by 19 percent, water quality was excellent and employment was stable."

And under Missoula's watch, water rates may rise anyway. Further costly repairs are still needed, for one thing.

For Carlyle, the deal was a financial success. The firm sold Park Water in January to another private company for $327 million, more than double what Carlyle had paid.

Missoula is not the only city seeking control over its infrastructure. Last year, Santa Paula bought its wastewater recycling plant for about $70 million from Alinda Capital Partners.

Alinda, which specializes in infrastructure investing, had teamed up with a private water recycling company to finance, design, build and operate the plant after the city awarded them the contract in 2008. The new facility, Alinda noted, replaced an old plant owned by Santa Paula that had been violating state environmental regulations, saving the city from paying fines.

But after years of raising sewer rates, partly to pay "service fees" to Alinda, Santa Paula's thinking changed: It would be better for Santa Paula to issue its own debt to purchase the plant than to saddle citizens with annual rate increases. Now the town — at the urging of its city manager, Jaime Fontes, and several council members, including Ginger Gherardi — has started issuing rebates to citizens.

Still, there will be bumps along the road. After all, cities like Missoula and Santa Paula are now responsible for running an important, and occasionally messy, public service.

Soon after Santa Paula regained control of its sewer plant, an equipment failure let partly treated wastewater pour from the plant. The discharge turned a pond green and flowed onto a nearby organic farm.

And wastewater, Mr. Fontes said, is "not the kind of organic you want."

Rachel Abrams contributed reporting from Los Angeles. Kitty Bennett, Susan Beachy

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REPORT: U.S. CITIES INCREASINGLY SPURN WATER PRIVATIZATION

NOVEMBER 19, 2014 PUBLIC WATER WORKS!

AUSTIN—A new report by Corporate Accountability International (http://www.stopcorporateabuse.org/) (CAI) and Public Services International Research Unit (http://www.psiru.org/) (PSIRU) finds that U.S. cities are rejecting water privatization and taking back public control of their public water systems at a growing rate. The report was released at the annual National League of Cities conference, a forum often exploited by the private water industry to lobby and market its services.

The release of the report, titled "Troubled Waters: Misleading industry PR and the case for public water" (http://www.stopcorporateabuse.org/troubledwaters) comes in the midst of uncertainty about the state of public water systems nationwide. Prominent cases like Detroit's recent shut-offs are stoking the public's concerns about who controls America's water systems and to what end. As federal funding for public water infrastructure dries up, corporations are rushing to fill the void with false promises that gloss over track records of rate hikes, water quality concerns, labor abuses and political interference.

The report finds that, since 2003, more than 30 U.S. municipalities (http://stopcorporateabuse.org/troubledwaters#page=18), including major cities like Atlanta and Indianapolis, have taken control of their water systems away from private water corporations like Veolia and Suez (known as United Water in the U.S.). Water remunicipalization in the U.S. is part of a global trend, with more than 100 cases of remunicipalization globally (http://stopcorporateabuse.org/troubledwaters#page=20) in the last two decades. In many cases, cities have saved millions of dollars after remunicipalizing; for example, Paris saved $46 million (https://research.ncl.ac.uk/media/sites/researchwebsites/gobacit/Anne%20Le%20Strat.pdf) in the first year after terminating its contracts with Veolia and Suez.

"Make no mistake: Contracts with Veolia and Suez are bad deals for the community," said Erin McNally-Diaz, director of Corporate Accountability International's Public Water Works! campaign. "This report exposes what many communities across the country have learned the hard way: when you invite the private water industry into the picture, you jeopardize public health, affordable water, and the sustainability of your water system."

The report cites specific examples of the failure of private water deals and the movement to take the systems back. In New Jersey, for instance, United Water avoids paying for critical infrastructure (http://stopcorporateabuse.org/troubledwaters#page=16) like underground pipes, despite profiting from water

management contracts throughout the state. And in St. Louis a groundswell of public opposition (http://stopcorporateabuse.org/troubledwaters#page=28) based on the corporation's track record of abuse led Veolia to withdraw its bid.

Given the public's mistrust of privatization, private water corporations are repackaging their services, using such terms as "public-private partnerships"—a euphemism for privatization—and "consulting contracts" which could lead to privatization. In St. Louis, for instance, Great Rivers Environmental Law Center, a law firm providing public interest legal services, concluded that Veolia's Peer Performance Solutions contract model would have the effect of "privatizing the city's Water Division," making city residents "captive to Veolia." (http://stopcorporateabuse.org/troubledwaters#page=29)

In addition to public relations, the private water industry also relies on political interference to expand its market in the U.S. At the federal level, private water industry front groups have testified on behalf of public-private partnerships (http://transportation.house.gov/uploadedfiles/2014-03-25-p3_panel_ssm.pdf) and have lobbied the IRS and Treasury Department (http://stopcorporateabuse.org/troubledwaters#page=23) to adjust domestic tax law in an effort to expand the market for water privatization in the U.S. At the state level, United Water lobbied legislators (http://stopcorporateabuse.org/troubledwaters#page=24) to oppose bills designed to increase the industry's transparency to communities where it operates. In Illinois, the industry contributed to a legislator's campaign who led the charge to enact the state's fast-tracked water privatization law.

And, perhaps most disturbingly, at the city level, Veolia and United Water have long track records of discussing private water contracts with public officials behind closed doors with almost no public discourse or transparency. Veolia, United Water and American Water, for example, are full advisory board members (http://usmayors.org/urbanwater/membership.asp) of the U.S. Conference of Mayor's Water Council, positioning themselves as experts to mayors with virtually no public scrutiny or alternative viewpoints in the room.

The report draws its conclusions from interviews with dozens of public officials, data about water remunicipalizations from more than 100 cities globally, and direct engagement with community members involved in water management in cities across the country. The report is authored by Emanuele Lobina (http://www2.gre.ac.uk/about/faculty/business/study/ibe/staff/emanuele-lobina), a Principal Lecturer, PSIRU, at the University of Greenwich, UK Business School. Lobina is one of the leading analysts of the impact of privatization and liberalization on public services, with a focus on water services.

To download the full report, visit Public Services International Research Unit (http://www.psiru.org/publications) or Corporate Accountability International (http://stopcorporateabuse.org/troubledwaters).

WATER ONLINE

When Does Privatization of Municipal-Owned Water Systems Make Sense?

by: Daniel Kucera

Much has been written and discussed about the benefits and mechanics of privatization of municipal-owned water systems. And, much of this verbiage has been from the perspective of a privatizer.

From the view of a municipality, however, when does privatization-particularly a sale-make sense? What circumstances should cause a municipal-owned system to consider privatization?

- **When there is a need for capital funds**. A municipality's equity interest in its water system may be a valuable asset. If sold, it can provide a source of capital funds much needed for improvements to other infrastructure assets. Incurring debt or obtaining grants may not be feasible. A sale of the water system may be the only practicable source of needed capital funds.

- **When the water system is not really making money**. Many municipal systems fail to accurately determine their cost of providing water service. If they did so, they may discover that full costs of service are not being recovered in rates. This means that the municipality is subsidizing, one way or another, its water operations. An adequate rate increase may not be feasible. If an alternate provider is willing to satisfy the need for public water service, it may not make sense to continue to operate a municipal-owned system below cost.

- **When the water system infrastructure requirements are overbearing**. Safe Drinking Water Act requirements may require upgrades. Deteriorating mains, storage tanks and other facilities may require replacement. In particular, facilities previously contributed by developers at no cost to the city now must be replaced by new municipal investment. The funds simply may be unavailable for the huge capital costs involved.

- **When continued municipal ownership denies customers the benefits of economies of scale and modern technology**. A privatizer likely will be a regional or national utility, whose corporate business is water and which can offer efficiencies not available to a smaller system. It may be unnecessarily selfish and shortsighted to preclude customers of a municipal water system from lower rates or more reliable service that can be offered by a privatizer.

- **When municipal utility management no longer is sufficiently sophisticated**. The scope of environmental regulation, as well as developments in water treatment, have advanced greatly in recent years. Municipal management may no longer have the skills and resources to "keep up" with all the changes and requirements.

- **When the source of water supply is perceived no longer satisfactory**. The Safe Drinking Water Act, as well as changing customer attitudes, have

diminished tolerance for inadequate water supplies or water which is not aesthetically acceptable. A privatizer may be able to offer an alternate water supply of higher quality or reliability.

- **When risks exceed benefits**. Operation of a water system is not without risk, as recent incidents involving water-borne disease illustrate. In many states, courts have held that municipalities operate water systems in their proprietary capacity; i.e., with characteristics as a business. A municipality may decide that the risks of its water system exceed the benefits of municipal ownership, and that it just does not want to be in the water business any more.

Dan Kucera is a partner with the Chicago law firm of Chapman and Cutler, specializing in public utilities, water and wastewater and environmental law. Tel: (312) 845-3757; Fax: (312) 701-2361; email: wimbush@chapman.com.

CASHING IN ON CRUMBLING INFRASTRUCTURE

The dual threat our cities face from private water and Trump's infrastructure plan

CORPORATE ACCOUNTABILITY INTERNATIONAL

Today, U.S. cities, which for decades have struggled to keep up their water systems with diminishing federal support, face a dual threat. The private water industry has been promising efficiency and investment, but instead has delivered corner-cutting measures and has failed to invest in the infrastructure our cities truly need. Now the Trump administration has proposed an infrastructure plan[1] that would further pad the profits of the private sector, while failing to solve our cities' water infrastructure crisis.

The Trump administration's pro-privatization stance represents a dream come true for private water corporations and their trade associations like the National Association of Water Companies. Yet Trump's infrastructure approach is a nightmare for cities desperate for federal support for maintenance, repair, and improvement of their aging water systems.

Why? Trump's plan is little more than a corporate welfare initiative for large, private corporations. It would provide up to $137 billion in tax credits for corporate investors, with no mechanism to prioritize needed projects or ensure results. And the water industry is already angling for Trump to grant unfettered access to other subsidies and tax breaks. The National Association of Water Companies has told the president-elect that it is "eager to work with [his] administration to open the door" to a slate of pro-privatization policies.[2]

In Baltimore (pictured above) and other cities across the country, communities have expressed grave concerns about public-private partnerships in the water sector.

Trump's plan and the water industry's policy wish list are dangerous for cities because they would:

1. **Cede control of public resources (like water systems) to private corporations,** making the privatization of essential parts of our public infrastructure even more attractive and accessible to corporations. Driven by the profit incentive, the private water industry has a track record of cutting corners that can lead to serious health hazards, labor abuses, and infrastructure neglect, as well as implementing rate hikes that disproportionately impact low-income communities.[3]

2. **Fail to ensure infrastructure repair and expansion where it is most needed.** Corporations are mandated to maximize shareholder profit, so even with massive tax credits they seek out only profitable projects. Giving incentives to the private industry via subsidies or tax breaks will not solve our infrastructure crisis because corporations will never take on infrastructure projects that are desperately needed but not profitable. (And the public would waste money via unneeded subsidies to corporations investing in profitable projects.)

Both Trump and the for-profit water industry ignore the solution we know works: investing in *public* funding and financing programs that address our highest priority infrastructure needs.

Rather than giving away billions in tax breaks or subsidies to the private sector, the federal government could fund infrastructure grants, increase funding to the Drinking Water State Revolving Fund (the primary source of federal funding for drinking water systems), and leverage public financing at the state and municipal levels—proven methods for building strong, publicly controlled water systems and other infrastructure.

Mayors should be wary of the false solutions presented by the private water industry, and the false promises of an infrastructure plan that offers more of the same. **Mayors can pursue public solutions to water-related challenges, including public-public partnerships, green bonds, and other municipal bonds or taxes needed for infrastructure projects.**

To bolster the national commitment to public funding for our water systems, mayors can join the call to our federal government to reprioritize public funding for this essential infrastructure.

CORPORATE ACCOUNTABILITY INTERNATIONAL

Corporate Accountability International is a member-powered organization that protects human rights, public health, and the environment by holding corporations accountable.

10 Milk Street. Suite 610. Boston, MA 02108
StopCorporateAbuse.org
+1 617.695.2525

Private water's role in lead contamination crises

In Flint, the private water corporation Veolia failed to warn of possible lead contamination despite documenting a lack of adequate corrosion control. It even declared Flint's water to be safe. Announcing his suit alleging Veolia committed professional negligence and fraud,[4] Michigan Attorney General Bill Schuette has accused Veolia of "callously and fraudulently" dismissing medical concerns by claiming that "some people may be sensitive to any water."[5]

The Pittsburgh Water and Sewer Authority has similarly brought Veolia into arbitration for gross mismanagement of its water system that violated federal and state safety regulations for water treatment.[6] Now, the city's water has lead concentrations exceeding the EPA's "action level."[7]

Private water corporations do not adequately invest in infrastructure

For example, in Hoboken, New Jersey, residents experienced 20 main breaks in 2016 alone.[8] Suez, the corporation charged with maintaining the system, invests a paltry $350,000 per year for capital improvements while extracting millions in revenue—$8 million in 2011 alone.[9] Suez claims the main breaks will continue until the city—and its taxpayers—invest more of their own funds to update the city's infrastructure.[10]

Skyrocketing rates as a result of private water deals

In Bayonne, New Jersey, a privatization deal involving Suez and private equity firm KKR has left residents with skyrocketing rates. The upfront payment the city received has come at a very high price to residents, who are left to pay back not only the upfront payment amount, but also the added cost of investment returns that the private sector demands.[11] Some residents, struggling to pay their water bills (which have already increased by nearly 28 percent since the deal went through) have even had liens placed on their homes that could lead to foreclosure.[12]

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1 Wilbur Ross and Peter Navarro, "Trump Versus Clinton on Infrastructure," October 27, 2016, http://peternavarro.com/sitebuildercontent/sitebuilderfiles/infrastructurereport.pdf.

2 Michael Deane, "Michael Deane to Donald Trump" (National Association of Water Companies, November 16, 2016), http://www.nawc.org/uploads/documents-and-publications/documents/Transition%20Letter%20(11-18-2016).pdf.

3 Emanuele Lobina, "Troubled Waters: Misleading Industry PR and the Case for Public Water" (Boston: Corporate Accountability International, 2014), https://www.stopcorporateabuse.org/resource/troubled-waters-misleading-industry-pr-and-case-public-water; Julia Lurie, "This Major City's Drinking Water Was Fine. Then Came the Private Water Company.," *Mother Jones*, October 26, 2016, http://www.motherjones.com/environment/2016/10/private-water-pittsburgh-veolia; Danielle Ivory, Ben Protess, and Griff Palmer, "In American Towns, Private Profits From Public Works," *The New York Times*, December 24, 2016, http://www.nytimes.com/2016/12/24/business/dealbook/private-equity-water.html.

4 "Schuette Files Civil Suit against Veolia and LAN for Role in Flint Water Poisoning," *State of Michigan Attorney General*, June 22, 2016, http://www.michigan.gov/ag/0,4534,7-164-46849_47203-387198--,00.html.

5 Walter Smith-Randolph, "Michigan AG Suing Two Major Water Companies over Flint Water Crisis," *WWMT*, June 22, 2016, http://wwmt.com/news/local/michigan-ag-suing-two-major-water-companies-over-flint-water-crisis.

6 "PWSA Files Suit Against Veolia Water North America-Northeast," *Pittsburgh Water and Sewer Authority*, October 12, 2016, http://pgh20.com/release?id=6578.

7 "PWSA 2016 Lead Test Results," *Pittsburgh Water and Sewer Authority*, July 22, 2016, http://www.pgh20.com/release?id=6278.

8 Brian Thompson, "Hoboken Gets 1st Water Main Break of 2017," *NBC New York*, January 4, 2017, http://www.nbcnewyork.com/news/local/Hoboken-First-Water-Main-Break-2017-409703355.html.

9 Ravinder Bhalla, "Suez Contract Must Be Reconsidered," *Hudson Reporter*, December 6, 2015, http://hudsonreporter.com/bookmark/26989613-Suez-contract-must-be-reconsidered.

10 Brian Thompson, "Another Water Main Break in Hoboken, Utility Warns Breaks Will Continue," *NBC New York*, November 30, 2015, http://www.nbcnewyork.com/news/local/Another-Water-Main-Break-Hoboken-New-Jersey-NJ-Monroe-Street-First-Avenue-358712601.html.

11 Emanuele Lobina, "Troubled Waters: Misleading Industry PR and the Case for Public Water," 32.

12 Danielle Ivory, Ben Protess, and Griff Palmer, "In American Towns, Private Profits From Public Works."

Bayonne Water and Wastewater Concession Agreement

After a period of underfunding and deferred maintenance, the Bayonne Water and Wastewater Concession Agreement monetized existing assets, restructured debt, and transferred asset management responsibility to the private sector. The agreement led to improved service efficiency, stronger general government financial condition and modestly higher rates.

The Bayonne Water and Wastewater Concession transformed the Bayonne water and wastewater utility from a utility struggling with a backlog of capital needs, high debt, and a history of deferred maintenance to a utility where annual maintenance and capital investment is contractually specified. This agreement was structured to improve the overall financial condition of Bayonne as well as improving water and wastewater services. In this concession, the cost of capital contributed by Bayonne Water Joint Venture is based on a combination of interest on taxable debt and private equity rate of return requirements. The capital investment is contractually regulated, regularly monitored, and offers comparable rates of return to the regulated utility sector. The resulting contract created a schedule of revenue needs, or "revenue path", and requires recurring rate increases to meet those revenue needs. However, rate increases have been higher than initially predicted due to lower than projected water sales and the reallocation of some of the initial concession fee funds from rate stabilization purposes to general governmental purposes.

Table 1. Key Project Details

Project Title:	Bayonne Water and Wastewater Concession Agreement
Primary Facility/Service:	Water, wastewater, and stormwater distribution and collection network
Local Government Entity:	City of Bayonne operating through Bayonne Municipal Utilities Authority
Primary Partner(s):	Bayonne Water Joint Venture (Partnership between Suez/United Water and Kohlberg Kravitz & Roberts)
Delivery Model:	Concession
Contract Period:	40 years
Population Served:	12,000+ meter accounts[1]
Major Initial Outlays	Upfront concession fee ($150 million),[2] project development and misc. reserves ($16.3 million) plus contractually required capital investments over the first 3 years including $7.5 million in meter and billing upgrades
Flow of Revenues:	Concessionaire collects revenues (bills) directly from users; rates are set by public entity to meet contractual annual revenue requirements

Background

The Bayonne Municipal Utilities Authority (the Authority) is the water and sewer utility created and managed by the City of Bayonne, New Jersey to provide its residents with water, wastewater, and stormwater collection/transmission services. The City of Bayonne currently has a population of approximately 66,000 people. The population has remained relatively steady since 2000, but had been experiencing a slow decline since 1950 when the population was 77,203.[3]

The Authority does not operate its own treatment plants. Instead, it purchases treated water through a contract with the North Jersey District Water Supply Commission and receives wholesale wastewater treatment through the Passaic Valley Sewerage Commission. As the New Jersey Board of Public Utilities has noted, historically the Authority did not always increase water and wastewater rates in proportion to the increased costs of running the system, thus incurring unsustainable debt and significant backlogs for necessary capital improvements.

Prior to the concession agreement being signed in 2012, the Authority had not raised rates since October 2006, when it passed a 27 percent increase.[4] Since then, the Authority experienced financial stress from decreased revenue resulting from water conservation, loss of a major industrial customer, an aging system with increased capital and maintenance costs, loss of key staff members the Authority could not afford to replace, and deferred debt obligations which came due at the same time revenue decreased.[5] The Authority was also troubled by a number of operational challenges, including a very high level of non-revenue water that is typically attributed to leaks and poor metering processes.[6]

The City of Bayonne was also experiencing significant financial pressure outside of its water and wastewater services. Between 2008 and 2010, the city relied on borrowing to meet as much as 40% of its basic annual revenue needs and

[1] Patrick Cairo (Senior Vice President, Corporate Development, Suez), email correspondence with author. August 31, 2016
[2] *Bayonne Water & Wastewater Concession Project Overview.* KKR. Presentation to New Jersey Board of Public Utilities. August 7, 2012.
[3] US Census 2014. http://www.census.gov/
[4] *State of New Jersey Board of Public Utilities Agenda*. Agenda Item 5B. October 23, 2012.
[5] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[6] *A Tale of Two Public-private Partnership Cities.* Knowledge@Wharton. June 10, 2015. http://knowledge.wharton.upenn.edu/article/a-tale-of-two-public-private-partnership-cities/.

received a low General Obligation credit rating (Baa1) with a "Negative Outlook" from Moody's.[7] This operational and financial stress led the City of Bayonne to pursue a public private partnership.

Project Development and Procurement

The Authority issued a draft Request for Qualifications and Proposals in March of 2011 seeking comments from potential operators. The Authority considered comments and issued a final Request for Qualifications and Proposals. The Request called for two service options: the first, a 20 year contract that was to include at least a $10 million dollar concession fee; the second, a 40 year contract that would allow the operator to retain all water and wastewater fees while paying concession fees at least large enough to pay off the Authority's outstanding debt.[8] Prior to the final solicitation due date, eight companies expressed interest, but for unclear reasons, only one group proceeded with a formal response. Under the 40 year proposal, United (now doing business as Suez) proposed a joint venture between United Water and Kohlberg Kravitz & Roberts (KKR), named the Bayonne Water Joint Venture (Bayonne Water). The Authority considered and analyzed Bayonne Water's proposal against the option to continue to operate the system internally.

The procurement process was dominated by extended negotiations between the Bayonne Water and public representatives throughout 2011 and most of 2012. The negotiations were underpinned by analyses designed to assure that both parties were able to meet their objectives. The City's main priorities were to keep rate increases to the minimum that would allow the project to be self-sufficient and to transfer responsibility (through debt retirement and refinancing) for $125 million in city-backed debt to the private sector. The Bayonne Water team developed the Revenue Path Model (see details below), which was the option that the Authority ultimately chose to achieve these objectives.[9]

The procurement process and negotiations involved individuals and organizations representing both public sector and private sector interests. Both the public and private sector engaged outside financial advisors, legal counsel, and engineering/technical advisors. The mayor in office during the development and initiation of the agreement lost a close election in 2014, resulting in a new mayor and administration taking over several years into the agreement.

Table 2. Select Project Milestones[10]

Date	Milestone
March 2011	The Authority issues Draft Request for Qualifications and Proposals seeking comments
June 2, 2011	The Authority releases Final Request for Qualifications and Proposals
August 19, 2011	Responses due for Request for Qualifications and Proposals
September 11, 2011	The Authority qualified United Water as selected respondent and began negotiations
March 20, 2012	Memorandum of Understanding reached
August 8, 2012	KKR and United Water acting as Bayonne Water Joint Venture signed 40-year concession with the Authority to operate the city's water and sewerage systems
December 2015	Revenue shortfall from existing rates requires a higher than expected rate increase (13.25% instead of 3.5-4%)

[7] *Ratings Update: Moody's Affirms the City of Bayonne's Baa1 Rating and Negative Outlook. Moody's Investor Service. November 5, 2010. https://www.moodys.com/research/MOODYS-AFFIRMS-THE-CITY-OF-BAYONNES-NJ-Baa1-GO-RATING-Rating-Update--RU_16711782.*
[8] *State of New Jersey Board of Public Utilities Agenda*. Agenda Item 5B. October 23, 2012.
[9] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[10] Bayonne Water & Wastewater Concession | InfraDeals "Project History". Infra-deals. September 15, 2015. http://www.infra-deals.com/deals/950558/bayonne-water-and-wastewater-concession.html

Key Financial Features and Outcomes

One of the defining characteristics of the model in Bayonne is the structure of concession payments, which include a large upfront concession payment ($150 million) and annual concession fees ($500,000 each year).[11] The upfront outlay was effectively a method of restructuring much of the city's existing utility and general government debt while at the same time generating a modest cash influx for the city. Approximately $125 million of the initial concession fee went towards refunding existing debt, $6.5 million was returned to the concessionaire to cover transaction costs, and the remaining $18.5 was used to support general governmental needs and tax stabilization.[12] Several reports on the project (including a report by one of the Authority's financial advisors) mention the possible creation of a rate stabilization fund using part of the concession fee proceeds; however, according to the City[13], the funds that were available after paying off the outstanding debt were eventually used entirely to meet general fund needs.

Under the terms of the deal, Bayonne Water is responsible for operations, meeting specific operating standards, maintenance up to $500,000 per year, and $2.5 million per year (adjusted by inflation) of capital improvements over the term of the contract. These contractually specified capital investment requirements were one of the key service improvement benefits of this model. Bayonne Water was also required to install approximately $7.5 million in new meter equipment in the first two years to improve billing services and increase revenue capture.[14]

> **"What the partnership does is remove the need for political will for the maintenance of the system. It's hard to imagine politicians committing an equal amount of money to maintaining our water supply."**
>
> *- Tim Boyle, Executive Director, Bayonne Municipal Utilities Authority*[15]

Bayonne Water committed to continuing employment for the Authority's 30 employees for a year after the agreement and to retain 19 employees thereafter. The employees also had the opportunity to take other positions within United Water.[16] Bayonne Water was also required to cover any employee termination costs for up to 12 months. The Authority maintains oversight and monitoring for the system with its remaining staff. The annual concession fee of $500,000 covers this work, along with other costs such as insurance and pension contributions for remaining staff.[17]

To pay for the deal, Bayonne Water issued approximately $110 million in privately placed taxable bonds with a final maturity date of November 2037 and an average life of 18 years. The bonds were priced at par with a fixed 5.07% coupon. Bayonne Water covered the balance of the upfront payment and initial capital obligations with $63.8 million in equity – 90 percent from KKR, and 10 percent from United Water.[18] The cost of capital that will eventually be incurred by ratepayers for the initial outlay under this model includes the debt costs associated with the taxable bonds and the

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[11] Bowen, Mick. *KKR, United Water Price Private Placement Bonds for Bayonne Water Concession*. InfraAmericas. November 21, 2012. Accessed April 18, 2016. http://www.infra-americas.com/registration/login.php?lastUri=/news/usa/1137378/kkr-united-water-price-private-placement-bonds-for-bayonne-water-concession.thtml.

[12] *Order Approving an Agreement to Establish a Public-Private Contract Between the Bayonne Municipal Utilities Authority and United Water Joint Venture, LLC.* New Jersey Board of Public Utilities. Agenda Item 5B. October 23, 2012.

[13] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.

[14] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

[15] *A Tale of Two Public-private Partnership Cities.* Knowledge@Wharton. June 10, 2015. http://knowledge.wharton.upenn.edu/article/a-tale-of-two-public-private-partnership-cities/.

[16] Baumann, Joseph. *Public Private Partnerships Case Study: Bayonne Municipal Utilities Authority*. American Water Intelligence Summit Infrastructure Finance Panel. November 14, 2012.

[17] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

[18] Bayonne Water & Wastewater Concession | InfraDeals "Funding Details". Infra-deals. September 15, 2015. http://www.infra-deals.com/deals/950558/bayonne-water-and-wastewater-concession.html

scheduled return on equity to the private partners (reported as being in the "low" double digits).[19] Appendix A shows the key relationships between the public and private partners and the financial flows between the different groups that support the provided services.

The agreement's structure is founded on a revenue model referred to as the "Revenue Path" model, which is guided by a schedule of revenue requirements to be generated through water and sewer rates. Under the agreement, the concessionaire (Bayonne Water) collects and retains the user fees; however, the Authority is responsible for adjusting rates to generate the required revenues. Under the terms of the initial agreement, the Authority was required to raise rates by 8.5% the first year and then freeze rates for two years.

It was widely reported and presented that beginning in 2015, annual rate increases in the range of 3.5% would be required for the City to meet its contractual revenue requirements. However, after raising rates approximately 4% in 2015, the City was obligated to raise rates 13.25% in 2016 to meet their contractual revenue requirements. This rate increase triggered considerable political debate and media coverage.

Several confounding factors led to the discrepancy between the original projected rate increase and the actual rate increase. First, the agreement is based on required revenues, so if water sales are lower than projected, rates must increase faster and higher than predicted to generate the same amount of revenue. In addition, Bayonne Water's modeling may have also overestimated the revenue gains that the contractually required meter improvement initiative would generate. According to a representative from the concessionaire, the investments in new meter technology, while reducing water loss, improving meter reading accuracy and customer service, may have actually led to a short term reduction in revenue because of the technology enabled customers to identify and repair leaks and therefore reduce their water purchases.[20] Finally, it appears that the Authority had less access to rate stabilization funds than originally anticipated because the City used the balance of the concession fee for general-purpose uses rather than for rate stabilization purposes. Presentations and articles about the agreement consistently mentioned that $6.5 million of the original concession fee was supposed to be deposited in a rate stabilization fund and that $18.5 million was to be provided to the City of Bayonne for general purposes. According to the Authority's executive director, Tim Boyle, who began working several years into the agreement, the City ended up not being able to use any of the concession fees to offset rate increases; instead the City used concession fees to meet general fund shortfalls.[21] The Authority's service area is concurrent with the city taxpayer boundaries such that there is considerable overlap between taxpayers and water and wastewater customers.

The discrepancy in promised (or at least perceived to be promised) rate adjustments and actual rate adjustments highlights the difference between revenue risk and rate setting/demand risk. The agreement did not change the Authority's exposure to revenue risk. Prior to the agreement, if demand fell the Authority would have had to increase rates to maintain stable revenues. Under the agreement, the Authority is obligated to generate specific revenue levels, and if current customer demand falls or if the Authority loses customers, the Authority is still responsible for adjusting the rates to generate contractually set revenue limits.[22] Risk transfer by definition leads to the potential that one party can incur significant costs if certain outcomes occur. In the case of Bayonne, it was never envisioned that demand risk was transferred to the private party since the City maintained ownership, yet high profile promises of "rate" stability as an outcome of the agreement may have masked the fact that demand risk was not transferred. Strong disagreements remain over why the projected revenues were so much lower than expected.

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[19] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[20] Patrick Cairo (Senior Vice President, Corporate Development, Suez), email correspondence with author. August 31, 2016.
[21] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.
[22] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

It is important to note that the public sector also retains the upside of demand variation if it occurs – if demands increase and lead to rate revenues that are greater than the required amount, a portion of the surplus returns to the Authority. In many respects, the Revenue Path Model is conceptually closer to a regulated Rate of Return Model than a comprehensive concession agreement in capital investments. Investor return (profit) on the part of the private entity is very closely monitored and bounded. The "sharing model" approach used in Bayonne takes advantage of some of the incentives described in a recent paper prepared by the US Treasury Department that specifically examined new hybrid models for crafting partnerships.[23] The Executive Director of the Authority stressed that the Bayonne model, while similar to a private regulated model, has a significant differences in that the City of Bayonne will benefit from years of required capital investment during the contract, but at the end of the contract will have full ownership of the assets, which would not be the case with full privatization.[24]

The agreement does shift some risks to the private entity (see Table 3). Some of the risks shifted to Bayonne Water include: cost overruns for meter replacement, cost of service and other costs related to the system (including repayment of any debt relating to the agreement), and increases in operating costs.[25] Other risks that remain with the Authority (and ratepayers) include capital expenses greater than $2.5 million per year, pass through third party water and wastewater treatment cost increases above 2% per year, and force majeure events (new regulations, etc.) causing costs to increase more than $3 million in one year. These shared risks also make the Revenue Path Model similar to a Utility Commission regulated water utility model, with the ability to pass some costs on to ratepayers and an embedded target rate of return within the contract calculations. Bayonne Water has relatively little risk that its return will fall dramatically; however, it also has limited ability to generate any type of windfall profits. It can only increase its profits by decreasing operational or debt service costs.[26]

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[23] *Expanding the Market for Infrastructure Public-Private Partnerships: Alternative Risk and Profit Sharing Approaches to Align Sponsor and Investor Interests.* Report. April 2015. https://www.treasury.gov/connect/blog/Documents/Treasury%20Infrastructure%20White%20Paper%20042215.pdf.

[24] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.

[25] Rogoza, Rafal. "Bayonne Approves 40-year Deal with United Water; Water Rates to Rise 8.5%." The Jersey Journal. August 07, 2012. http://www.nj.com/jjournal-news/index.ssf/2012/08/bayonne_municipal_utilities_au.html

[26] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

Table 3. Select Risk Responsibilities under the Bayonne Water and Wastewater Concession Agreement

Risk Category	Responsible Parties	Description
O&M	Bayonne Water	Responsible for most operational costs, capital expenses up to $2.5 M / year, and cost overruns for meter replacement
	Ratepayers	Responsible for increases in water and wastewater treatment costs in excess of 2% per year, capital expenses over $2.5 million per year, increases in operating costs over 2% per year, and pass through water purchase and wastewater treatment costs
Performance	Bayonne Water	Required to meet contractual performance standards
Law / Regulation changes	Bayonne Water	Responsible for changes causing cost increases up to $3 million per year
	Rate payers	Responsible for changes causing increases over $3 million per year
Demand	Rate payers	Bayonne Water is assured aggregate revenue levels; if demand is lower than projected that could lead to higher than projected rate increases
Debt/Financial	Bayonne Water	Responsible for debt related to concession fee; payment for concession fee is converted to contractually required annual revenue payments
Catastrophic	Bayonne Water	Responsible for events causing cost increases up to $3 million per year
	Rate payers	Responsible for events causing increases over $3 million per year
Oversight and monitoring	Rate payers	Responsible for a fixed fee that is incorporated into revenue requirements

One of the major selling points of this arrangement was that it would smooth out rate increases in a way that would lead to lower customer rates than if the utility provided similar services without the concession agreement (Figure 1). Based on an initial analysis carried out by the City's financial advisor, the rates under the public private partnership model were projected to eventually surpass what they may have been under public management, but this would not occur until far out into the contract (year 25).[27] While the rate increase in 2016 was higher than projected, the average rate increase over the first 5 years of the contract of just over 5% is still comparable to rate increases in many utilities across the country.

[27] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

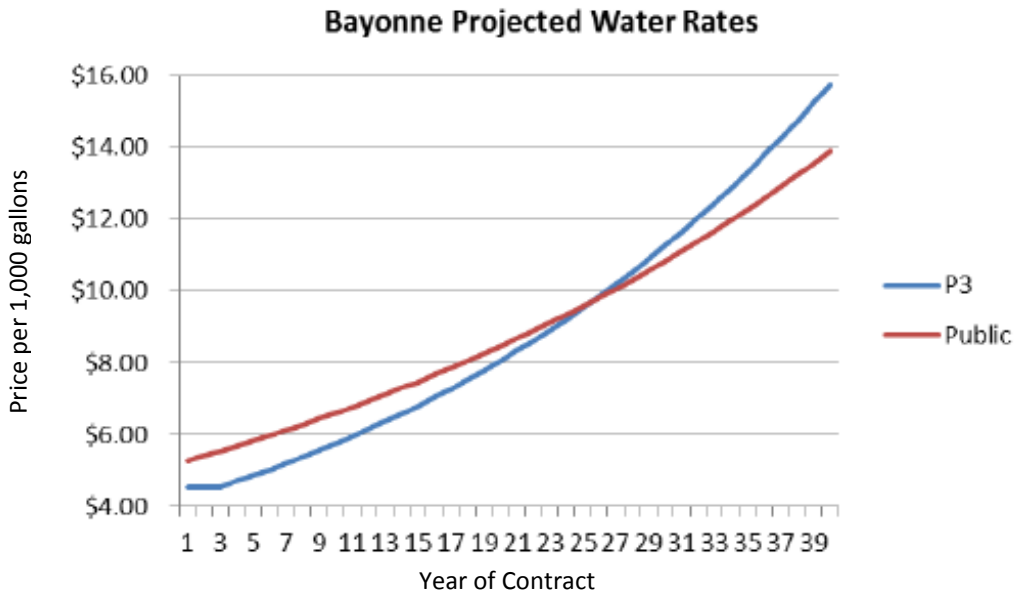

Figure 1: Bayonne Projected Water Rates[28]

What is not measurable is the increased reliability of the system, which can be attributed to the required annual investments that would not be assured if O&M responsibility remained with the Authority.

Despite controversy over resulting rate increases, the deal has led to some positive changes in the City's overall financial health. For example, the City's credit rating was shifted to stable from negative almost immediately after the deal closed and has improved since entering into the agreement (currently A3 by Moody's). According to a recent Moody's Rating, the upgrade to A3 from Baa1 reflects the elimination of the City's reliance on cash flow borrowing which was partially made possible by the concession agreement. The rating also incorporates the City's continued heavy reliance on one-time revenues to fill its structural gap.[29]

[28] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[29] "Rating Action: Moody's Upgrades Bayonne, NJ's GO to A3." Moody's Investor Service. March 07, 2016. https://www.moodys.com/research/Moodys-Upgrades-Bayonne-NJs-GO-to-A3--PR_903128471.

Appendix A. Simplified Project Financial Flows

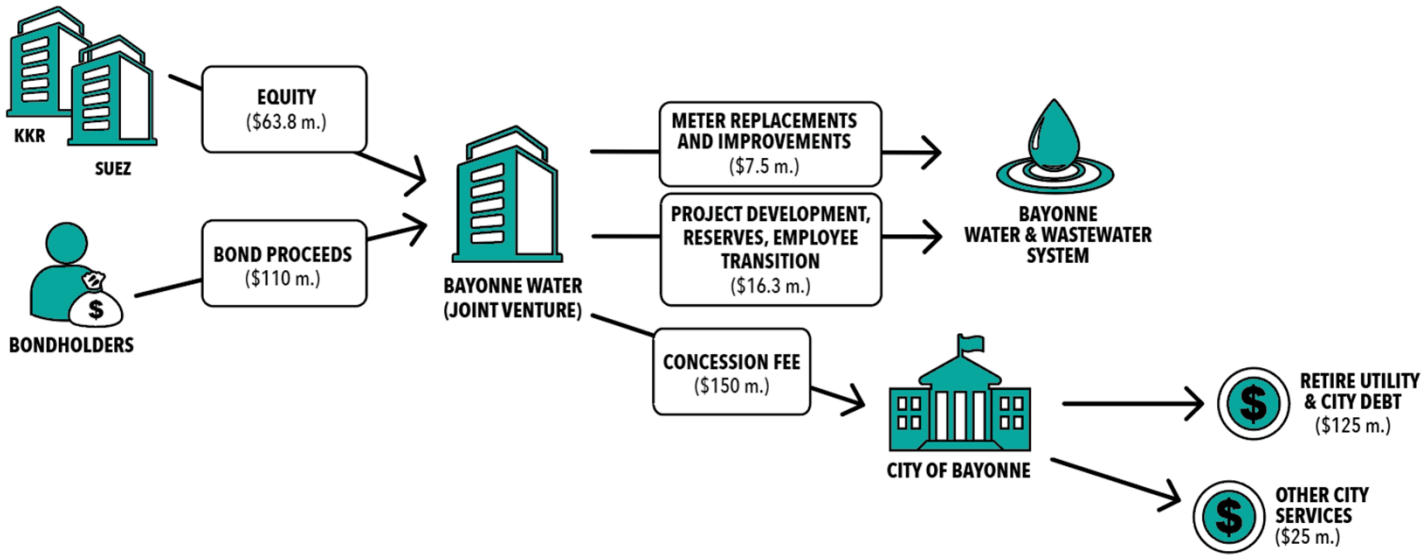

Figure 2. Flow of Initial Project Outlays

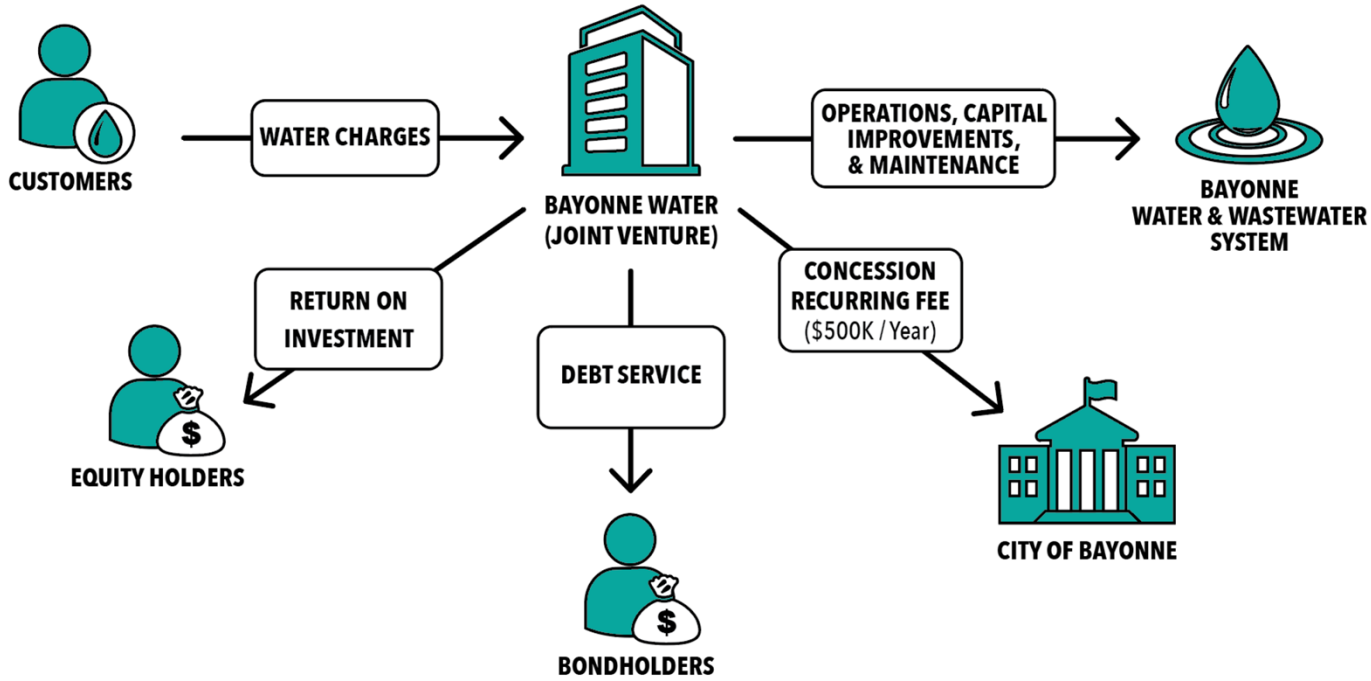

Figure 3. Recurring Financial Flows

Acknowledgements

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About the Water Infrastructure Resiliency Finance Center

The Water Infrastructure and Resiliency Finance Center identifies financing approaches to help communities make better informed decisions for drinking water, wastewater, and stormwater infrastructure that are consistent with local needs.
https://www.epa.gov/waterfinancecenter

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at The University of North Carolina, Chapel Hill
School of Government
Knapp-Sanders Building, CB# 3330
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-3330
http://efc.sog.unc.edu

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Panel Readings VI: Water Public-Private Partnerships, General

1. National Academies: Privatization of Water Services in the United States: An Assessment of Issues and Experience
2. Privatizing US Water
3. The State of Public Water in the United States
4. Troubled Waters: Misleading Industry PR and the Case for Public Water

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1
Key Issues in Water Services Privatization

Interest in an increased role for private sector participation in the U.S. water supply and wastewater industries expanded greatly during the 1990s. Although many U.S. water utilities were initially private undertakings, they have a long history of public ownership and operation. But despite this history of strong public sector involvement, views about the role of the private sector shifted during the 1990s because of a variety of economic, fiscal, regulatory, and environmental factors. City and water utility officials were increasingly subjected to pressures of limited financial and technical resources, stringent regulatory requirements, and inadequate infrastructure. In addition, private water companies saw profitable opportunities in the ownership and operation of water utilities and began to promote their services. These conditions led city officials across the United States to consider the pros and cons of privatizing some or all components of their water supply and wastewater utility systems.

The decision as to whether to transfer ownership or operations of a public water utility to a private firm is complex. Immediate economic questions such as "Will privatization reduce customers' monthly water bills?" are accompanied by larger and longer-term questions relating to public health, employment, political control, environmental issues, and relations to other city services.

Given this broad and growing interest in the privatization potential of U.S. water services, the Water Science and Technology Board (WSTB) of the National Research Council discussed the prospects of conducting a study on the topic. The level of interest in the proposed study was high

and in 1999 the WSTB appointed a committee of experts to examine the issue of water services privatization in the United States. The committee's study was conducted with support from the following sponsors: American Water Works Company, Inc.; the University of California; the California Water Service Company; Severn-Trent Environmental Services; and the U.S. Environmental Protection Agency. The charge to the committee was as follows:

This study will assess issues associated with various forms of ownership and operation of drinking water supply and wastewater systems in the United States, including strengths and weaknesses. Ownership and operation of water services ranges from fully public to fully private, with several possible public-private partnerships in between.

This study will assess public, private, and public-private drinking water supply and wastewater systems in the United States in light of the following water management concerns: long-term water supply; stewardship of water resources; the ability to manage water from a regional or watershed perspective; the ability to implement conservation strategies; water quality (both at the tap and in the environment); reliability of services; economies of scale; efficiency of operation and management; political and financial incentives and disincentives for improving management and service; and fiscal and policy implications.

FORMS OF WATER SERVICES PRIVATIZATION

Four types of privatization considered representative of the range of privatization arrangements available in the United States are considered in this report. In order of private responsibility and risk assumption, they are (1) "outsourcing" of the performance of specific public utility support services to private companies; (2) full-service contract operation and management by private companies of publicly owned treatment works; (3) coupling design and construction services with comprehensive operating agreements for new, expanded, or upgraded facilities under design-build-operate (DBO) contracts; and (4) the sale of government-owned water/ wastewater assets to private water companies.

Only the fourth option fully transfers risks and responsibilities of asset ownership, operation, maintenance, and replacement to the private sector. Private companies that operate as tax-paying corporate entities currently collect about 14 percent of the revenues and own about 11 percent of the assets providing drinking water in the United States (EPA, 1997). They typically operate under long-term franchises granted by local municipalities. State commissions regulate their rates and charges.

The first three forms of privatization involve variously detailed contracts for private participation in publicly owned facilities where financing is usually provided by government agencies and ownership risks are retained by the government. These performance-based contracts for a fixed fee are the most common form of privatization in the U.S. water and wastewater industry. All three forms share similar goals in terms of assigning specific tasks and operating risks to financially sound and technically competent private companies or consortia under multiyear contracts. These agreements are frequently secured by insurance companies and by bank guarantees. Prices are fixed and schedules are set in these agreements, which usually seek to reward private operator-managers only for meeting efficiency and cost performance targets.

Private companies working for government-run utilities under short-term contracts often provide design and construction services, technical consulting, biosolids disposal, laboratory analysis, and other special tasks. Some of the simpler privatization forms may evolve into longer-term, more complex agreements involving major operation and management responsibilities.

A benefit of public ownership of water assets in the United States is the ability of governments to fund capital improvements with 100 percent debt financing. Investors in the large and highly liquid U.S. municipal bond market are exempt from federal and state income taxes on interest earnings, which substantially lowers the interest rate governments pay for borrowed capital as long as they retain full ownership control of the asset being financed.

The advantage conferred on municipal governments in the form of lower borrowing costs greatly affects consideration of whether water/ wastewater capital assets should be publicly or privately owned. Water services are the most capital-intensive of all utilities, including electric power and natural gas (see Table 5-1 in Chapter 5), largely because of the high cost of building and repairing sewers and water pipelines. Capital ex-

penditure needs for both types of conveyance systems are forecast to more than triple during the period from 2000 to 2030 (AWWA, 2001a). As capital needs grow, the borrowing cost advantage from lower interest rates on municipal debt will become even more important in discussions of asset ownership.

Another barrier to change is the diversity in ownership, size, management characteristics, and capabilities within the U.S. water industry. As of 1999, nearly 54,000 community drinking water systems were in operation (the U.S. Environmental Protection Agency (EPA) defines a community water system as one serving more than 25 people, regardless of ownership; see Box 1-1). The vast majority of these systems serve small populations—85 percent of the water systems serve only 10 percent of the population served by community water systems (Table 1-1). In the wastewater sector, the EPA noted there were 16,024 publicly owned wastewater treat-

BOX 1-1
Forces of Change Affecting Water Utilities

McGuire Environmental Consultants (2000) describes the forces affecting water utilities as follows: The majority of water utilities in the United States are owned by local municipal governments. The degree to which local governments embrace and/or react to change may well govern the pace at which the industry transforms. Broad societal, business and utility trends will shape the water utility future. These trends include the development of new technology, increasing stringency of water quality standards, aging infrastructure, globalization of the water business, population increases, demographic shifts, and the increasing litigiousness in the United States.

Some of the trends affecting provision of water/wastewater services are not so obvious. For example, the free exchange of technological knowledge so common in the current collegial world of water may well become constrained if competitive pressures cause water utility managers to view such knowledge as a competitive advantage. Other, more discrete effects include the simplicity of advocacy group organization and mobilization in an era when electronic communication is in the hands of every water utility customer and the utility itself. The availability of water quality data on a real-time basis via the internet also could fundamentally change the manner in which consumers are made aware of water system issues.

SOURCE: McGuire Environmental Consultants, Inc. (2000).

TABLE 1-1 Community Water Systems (Public and Private) in the United States and Population Served, 1999

Population Served	No. of Systems	Percentage of Water Systems	Population Served	Percentage of Population Served
25–500	31,904	59.2	5.2 million	2.0
501–3,300	14,040	26.0	19.8 million	7.8
3,301–10,000	4,356	8.1	25.4 million	10.0
10,001–100,000	3,276	6.1	91.0 million	35.9
>100,000	347	0.6	112.4 million	44.3
Total	53,923	100.0	253.8 million	100.0

NOTE: Total systems based on U.S. Environmental Protection Agency, EPA Drinking Water Information System Factoids: FY1999 Inventory Data. Ownership percentages based on U.S. Environmental Protection Agency, 1995 Community Water System Survey, and applied to factoid data.
SOURCES: EPA (1997, 1999a).

ment works (POTWs) serving 190 million persons, or about 73 percent of the U.S. population (Michael Cook, EPA Office of Wastewater Management, personal communication, 2000). Small communities in which fewer than 10,000 persons are served accounted for 71 percent of the total publicly owned wastewater treatment works.

There is also diversity within ownership arrangements of U.S. water utilities. At one extreme is full private ownership and operation by investor-owned water companies, whose charges and rates are typically set by state public service commissions. More common are publicly owned systems that fund and manage their assets without economic regulation (except for accountability to local government) and that perform most of their operations with municipal employees. Nearly all

medium- to large-sized cities in the United States follow this approach.

Private ownership nonetheless plays an important role in the water industry. Table 1-2 shows that 14.3 percent of total revenues and 10.7 percent of assets are attributable to privately owned utilities. There are about 4,000 investor-owned water utilities in the United States, some of which serve large populations (e.g., Indianapolis Water Company). Other examples of U.S. cities and suburban areas served by investor-owned water systems include San Jose, California; Lexington, Kentucky; Baton Rouge, Louisiana; Chattanooga, Tennessee; Bridgeport, Connecticut; Hackensack, New Jersey; Charleston, West Virginia; St. Louis County, Missouri; and Peoria, Illinois.

Table 1-3 shows there is private ownership in all of the size categories, but that it is more common in smaller systems. Public ownership is the rule for larger community water systems, but this has not always been the case in the United States. The early days of the U.S. water industry saw public and private operations growing side by side, and not until the twentieth century did municipal ownership become predominant (Baker, 1948).

TABLE 1-2 Market Share of Publicly and Privately Owned Water Systems, 1995

	1995 Revenues		Assets	
Ownership	Amount ($ bil.)	Percentage	Amount ($ bil.)	Percentage
Public	22.2	85.7	117.8	89.3
Private	3.7	14.3	14.1	10.7
Total	25.9	100.0	131.9	100.0

TABLE 1-3 Community Water Systems in the United States by System Size and Ownership (estimated for 1999)

	System Size (in Terms of Number of Households Served)						
Ownership	<100	101- 500	501-3,300	3,300-10,000	>10,000	Total Number of Systems	Percentage of Total
Public	7.7	34.8	68.6	78.1	87.7	23,187	43
Private	39.5	34.6	26.6	21.4	12.2	17,795	33
Ancillary[a]	52.8	30.6	4.8	0.5	0.1	12,942	24
Total systems		31,904	14,040	4,356	3,276	53,924	100

NOTE: Data are from EPA's Drinking Water Information System Factoids: FY1999 Inventory Data. Ownership percentages are based on EPA's 1995 Community Water System Survey.

[a]Ancillary systems deliver drinking water as an adjunct to their primary business (e.g., mobile home parks, retirement homes).

SOURCES: Adapted from EPA (1997; 1999a).

A March 2001 survey (PWF, 2001) reported results from the 17 largest firms seeking water/wastewater privatization contracts in the United States (Table 1-4). Collectively, these companies reported they were paid $917 million in calendar year 2000 for operating 2,273 publicly owned facilities (most often treatment plants but also solids handling, pump stations, and other components) with an aggregate design flow of about 7 billion gallons per day. These fees for contract services were paid by 1,882 different municipal, state, and federal government clients (PWF, 2001).

Table 1-5 lists the values of a variety of investor-owned water companies, ranging from regional operators to multinational conglomerates. Any listing of water companies should be considered somewhat fluid, as the number of private water companies has changed significantly over the past five years through mergers and acquisitions (Table 1-6).

TRENDS IN AND TYPES OF WATER PRIVATIZATION

Deregulation and privatization trends in the airline, telecommunications, and energy industries have significantly influenced the water supply and wastewater treatment industry. However, based on data from the National Association of Water Companies (NAWC), the actual proportion of water services provided by private water companies, whether measured by customers served or by volume of water handled, has remained relatively steady in the United States since World War II, and currently stands at roughly 14 percent (EPA, 1997).

TABLE 1-4 Ownership of Major Contract Water Services Operations and Maintenance Firms

Operating Company	Parent Company	Ultimate Ownership/Affiliation	Acquisitions in 2000
Alliance Water Resources	Privately held	Privately held	None
American Water Services	American Water Works Company	Publicly traded NYSE	None
Americas' Water Services	Allete Water Services	Allete Corp.,[a] publicly traded NYSE	None
CWS Utility Services	California Water Service Group	Publicly traded NYSE	Dominguez Water (CA)[b]
Earth Tech Total Water Management	Earth Tech Inc.	Tyco Int'l Ltd., publicly traded NYSE	NA
ECO Resources	Southwest Water Company	Publicly traded NASDAQ	Master Tek Inc. (CO)
Thames Water North America	Thames Water Plc	RWE	E'town Corp. (NJ)
Environmental Management Corporation	Privately held	Privately held	None
Covanta Water	Covanta Energy Corp.[c]	Publicly traded NYSE	None
Operations Management International	CH_2M Hill Cos. Ltd.	Employee-owned	None
OPTECH	Operations Technologies Inc.	Privately held	None
Azurix North America	Azurix Corp.	Enron Corp., publicly traded NYSE	Prism Res. Mgmt. (Ont.) H2O Utility Services. (FL) E. Craver Pumping Services (FL) Baker Hughes Indus. Services (TX)
Severn Trent Environmental Services Group	Severn Trent Services	Severn Trent, PLC, publicly traded London exchange	None
United Water	ONDEO Services	Suez Lyonnaise des Eaux	None
U.S. Filter Services	U.S. Filter Corp./Vivendi Water North America	Vivendi Environment, publicly traded Paris Bourse	None
U.S. Water LLC	UIC/United Utilities	Bechtel/United Utilities	None
Woodard & Curran	Privately held	Privately held	None

[a]Formerly Minnesota Power Inc.

[b]Acquisition included nine small industrial service contracts.

[c]Formerly Ogden Energy.

SOURCE: PWF (2001).

TABLE 1-5 Value of Investor-Owned Water Companies (in millions of currency units)

Company	Ticker Symbol	Market Capitalization
U.S. Companies		
American Water Works Company, Inc.	AWK	$4,324
Philadelphia Suburban Corporation	PSC	$1,531
California Water Service Group	CWT	$359
American States Water Company	AWR	$367
Connecticut Water Services, Inc.	CTWS	$216
Southwest Water Company	SWWC	$133
International Water Utilities		
Suez (ONDEO)	SZE	£33,502
RWE AG (Thames)	RWE	£22,992
Vivendi Environment	VIE	£13,227
United Utilities	UU	£3,300
Severn Trent	SVT	£2,517
Anglian Water Group	AWG	£1,502
Kelda	KEL	£1,391

NOTE: Bridge market data, January 23, 2002; 1.00 US$ = 1.16 Euros; 1.00 US$ = 0.71 British pounds (£) as of January 29, 2002.
SOURCE: Schwab Capital Markets LP (2002).

TABLE 1-6 Large U.S. Utility Acquisitions by Major Water Companies (EBIT and EBITDA figures in millions)

Major Company-Company Acquired	Date Announced	Equity Value (million $)	Trailing 12 Mos. P/E	Book Value Premium	$/Customer
NiSource (NI)– Indianapolis Water Company	12/19/96	288	25.7	240	$1,719
Philadelphia Suburban (PSC)–Consumers Water	6/29/98	270	21.9	252	$2,045
Kelda Group PLC– Aquarion	6/1/99	444	25.5	281	$4,096
Suez Lyonnaise (SLEDF)– United Water (UWR)	8/23/99	1,360	30.3	292	$4,154
American Water Works (AWK)–Citizen's water assets[a]	10/17/99	NA	27.5	265	$2,738
Thames Water PLC– E'town (ETW)	11/22/99	607	26.7	256	$4,732
Median Multiples			26.7	265	$2,738

[a]Asset purchase, multiples as adjusted to reflect capitalization structure similar to other publicly traded water utilities.
SOURCE: EPA (1997).

Responsibility for safe, reliable, and reasonably priced service ultimately rests with state and local agencies. Local and regional water supply and sanitation services may be provided by government agencies or private companies, either as asset owners or managers. Operating risks may be contractually assumed by private companies. But failures in services that affect health, fire safety, and other public goods will be attributed to political leaders. In most cases, privatization is driven by the desire of elected officials for greater accountability and improved service at lower cost. Ultimately, an important political goal is to reduce or avoid the blame for large increases in user fees that would eventually stem from the capital improvements needed to replace aging and failing infrastruc-

BOX 1-2
Upgrading and Replacing the Water Services Infrastructure

There is widespread agreement that current levels of investment must be increased substantially to replace old pipes and obsolete treatment systems, upgrade technology to comply with stricter quality standards, and meet the demands of a rapidly growing U.S. population. For example, a 2001 study on drinking water infrastructure in the United States found that spending on pipe replacement alone must triple over the next 30 years in order for the nation to maintain a reliable, high-quality drinking water infrastructure (AWWA, 2001a). This represents an additional $250 billion in capital spending over the next 30 years. Other estimates are of a similar

magnitude. For example, in a needs survey conducted in 1996, the U.S. Environmental Protection Agency (EPA) estimated infrastructure investment requirements at $140 billion over 20 years (EPA, 1997). Other groups have provided similar estimates, nearly all of which reflect an aging water infrastructure. No matter which set of figures is chosen, substantial expenditures will be required to maintain and upgrade the nation's water delivery and sewerage infrastructure in the ensuing decades.

The AWWA study was conducted in 20 utilities nationwide and was the first comprehensive assessment of drinking water infrastructure needs ever performed, according to the AWWA. "The utilities in this study represent the best in the business;" said AWWA Executive Director Jack Hoffbuhr, who also stated, "They were chosen in part because they are so well-managed. By studying these best-case scenarios, we come to understand what we must do to maintain a reliable drinking water infrastructure for all of us" (AWWA, 2001b).

The U.S. drinking water infrastructure network is primarily publicly owned and operated. It spans more than 700,000 miles, more than four times the length of the national highway system. Most utilities across the country will have to confront a convergence of replacement needs over the next few decades, as many of the pipes laid a century ago and many of the pipes laid in the post-World War II era will need to be replaced.

ture (Box 1-2) and to meet the mandates of the federal Clean Water Act and Safe Drinking Water Act.

Other drivers are also at play. Even without a need for capital improvements, the economies achievable through private plant operations may allow long-term rate stabilization. Philosophically, some political leaders believe that subjecting public management monopolies to vigorous private competition is beneficial. Advances in treatment technology to meet increasingly stringent regulatory standards are also motivating some local governments to consider outsourcing the management of individual treatment plants, conveyance systems, and other services to private firms.

How municipal governments fund these capital expenditures will play an important part in the scope and pace of private involvement in the water industry. The private investor-owned water industry and private operators of pubic utility systems generally oppose a major program of federal grants to fund municipal utility infrastructure. Their position was stated at a water investors conference in April 2001 by Peter Cook, executive director of the National Association of Water Companies: "The larger the federal role the more counter-productive it will be." As replacement costs continue to rise, investor-owned utilities are forced to create operating efficiencies to help keep local rate increases within the realm of political acceptability.

Costs of Needed Capital Improvements to Drinking Water Infrastructure for the Top 10 States by System Size[a,b]

State	Large Systems	State	Medium Systems	State	Small Systems
California	12,310.8	Texas	3,691.7	Texas	2,655.1
New York	9.305.0	Massachusetts	2,998.8	California	2,204.4
Texas	6,684.2	California	2,896.7	New York	1,739.0
Michigan	3,647.1	Illinois	2,738.6	Pennsylvania	1,375.0
Massachusetts	2,628.4	Ohio	2,096.7	Illinois	1,306.2
Florida	2,163.1	New York	2,015.4	Washington	1,256.5
Illinois	2,020.8	Pennsylvania	1,946.5	Ohio	957.5
Pennsylvania	1,722.1	Michigan	1,919.3	Florida	910.2
New Jersey	1,721.7	Iowa	1,800.3	North Carolina	908.5
Ohio	1,689.9	Minnesota	1,498.5	Missouri	881.4

[a]Large systems: >50,000 customers; medium systems: 3,301-50,000 customers; small systems: <3,300 customers.

[b]Costs reported in millions of dollars on January 1999 dollars.

SOURCE: EPA (2001).

Private construction and management of new and replacement facilities thus are sometimes sought by gov-

ernments seeking to transfer capital needs, the onus of rate increases, and operating risks to private design-build-operate (DBO) consortia. Outsourcing of operations and maintenance alone is often driven by a desire for cost savings through economies of scale and service efficiencies that may be possible through private enterprises.

Few local governments want to sell their entire water system to a private water company and lose control of the community water supply and responsibilities like rate setting. Most municipal wastewater assets are encumbered by federal grants that must be paid back in any asset privatization. Further, any premium on the price paid by a private company for the purchase of the municipal water or wastewater utility will be recovered in the rates charged to the community by the private company, thus minimizing efforts to reduce rates to the residents and businesses. Finally, municipal utility valuations are difficult to establish because of variations in local governments' bookkeeping and maintenance records.

Of the major private U.S. water companies, Philadelphia Suburban Company (PSC) has been the most successful in expanding its rate base through acquisition of small public and private systems. Since 1992, it has purchased more than 40 public and private water utilities, including what PSC claims is the largest ever municipal water system asset sale in the United States, in Bensalem, Pennsylvania, in 1999. Most of PSC's municipal acquisitions have been acquisitions of systems that are contiguous to its densely populated service area north of Philadelphia. The country's largest publicly traded water company, American Water Works Company, Inc., bought municipal systems in Howell Township, New Jersey, in 1998, and Coatesville, Pennsylvania, in 2000.

The type of privatization that involves the design, construction, and operation of new, upgraded, or expanded treatment plants, pipes, pumps, and storage facilities has become an accepted option for municipal owners during the past 10 years. Under these DBO contracts, municipalities set design criteria and their guidelines for long-term agreements. Private firms compete on the quality of their technical submissions and their prices for managing the detailed design/engineering/procurement/construction services and for operation and maintenance (in some cases with fixed prices for major maintenance and repairs).

Municipal governments and their financial advisors usually arrange project financing for DBO projects. The cities of Atlanta, Seattle, Phoenix, Houston, and Tampa have completed or are building large new treatment plants or biosolids processing facilities procured as DBO projects. A substantial number of long-term management contracts for the private opera-

tion of existing municipal utility plants also include a capital upgrade or expansion component that is treated as a DBO project.

The design-build-own-operate-transfer arrangement (DBOOT) is infrequently used but involves the private, taxable debt and equity financing of new or expanded water/wastewater systems for municipal governments. In DBOOT-transfer operations, private developers organize the project, obtain permits, arrange financing, and manage the capital and operational risks of new facilities under long-term contracts. In the past 15 years, only Cranston, Rhode Island, Franklin, Ohio, and Tampa, Florida, have awarded DBOOT contracts for new water/wastewater treatment plants.

The cities of Chicago and Atlanta used a private DBOOT approach in 2001 for building and operating large wastewater biosolids treatment and disposal projects. Tampa Bay Water is a state-created regional water wholesaler that supplies water to municipally operated utilities in the Tampa Bay metropolitan area. In 1999, Tampa Bay Water signed a 30-year water supply contract under which Poseidon Resources is obligated to deliver 25 million gallons per day of drinking water from a large desalination plant set for operation by De-

cember 31, 2002.

Although much attention has been given to new forms of contracting for facility construction, the most significant recent increase in private sector water activity has been in the operation and maintenance of both public and private water and wastewater facilities. This market, which now exceeds $2.5 billion per year, is projected to increase to $5.5 billion per year by the year 2004 (PWF, 2001). Table 1-7 summarizes recent activities. For example, the cities of Milwaukee and Indianapolis delegated management of their wastewater systems in 1999 and 1994, respectively, while Atlanta transferred its entire water system to private management in 1999. The largest number of privatization contracts is short-term service agreements of five years or less, signed with small and medium-sized municipalities.

Water utilities, whether public, private, or some combination, have several goals. First and foremost is assuring public health and safety through the reliable provision of high-quality water supply and treatment facilities, and the provision of water for fighting fires. Water utilities seek to provide these services at reasonable prices. Water utilities also often aim to meet several related concerns, including environmental stewardship and providing jobs in the communities they serve. The challenges of meeting new regulations, especially drinking water quality standards and wastewater effluent standards, have put many water utilities, especially small- and medium-sized ones, under great pressure to continue to meet these goals. Many lack the expertise to upgrade or operate their

TABLE 1-7 Communities with Long-Term Water Contracts

Municipality	Description (System Type)	Capacity[a]	Contract Term (Years)
Atlanta, Ga.	Water	201.4 mgd	20
Augusta, Ga.	Wastewater	46 mgd	10
Bessemer, Ala.	DBO water	24 mgd	20
Boston, Mass.	Wastewater sludge	125 dtpd	15
Brockton, Mass.	Water/wastewater	24 mgd	20
Chicago, Ill.	Wastewater sludge	150 dtpd	20
Cranston, R.I.	DBO wastewater	23 mgd	25
Edmonton, Alb.	Wastewater	24 mgd	8
Evansville, Ind.	Water	60 mgd	10
Farmington, N.M.	Water/wastewater	20 mgd	8
Franklin, Ohio	BOT wastewater	4.5 mgd	20
Franklin, Ohio	BOT water	5 mgd	20
Fulton Co., Ga.	Wastewater	24 mgd	10
Hamilton, Ont.	Water/wastewater	300/5 mgd	10
Indianapolis, Ind.	Wastewater	250 mgd	14
Milwaukee, Wis.	Wastewater	550 mgd	10
Moncton, N.B.	DBO water	25 mgd	20
New Haven, Conn.	Wastewater	45 mgd	15
Newport, R.I.	Wastewater	10 mgd	20
Norwalk, Conn.	Wastewater	20 mgd	20
Oak Ridge, Tenn.	Utilities	—	10+10
Plymouth, Mass.	DBO wastewater	3 mgd	20
Rahway, N.J.	Water	6 mgd	20
Seattle, Wash.	DBO water	120 mgd	25

Springfield, Mass.	Wastewater	67 mgd	20
Stonington, Conn.	Wastewater	3 mgd	20
Tampa, Fla.	DBO water	66 mgd	15+5
Tampa, Fla.	BOT desalination	25 mgd	30
Taunton, Mass.	Wastewater	8.3 mgd	20
Wash. Boro, N.J.	DBO wastewater	1.2 mgd	15+5
West Haven, Conn.	Wastewater	12.5 mgd	15
Wilmington, Del.	Wastewater	105 mgd	20
Woonsocket, R.I.	DBO wastewater	16 mgd	20

[a]mgd = million gallons per day; dtpd = dry tons per day.
SOURCE: PWF (2001).

plants to meet often stringent regulations, as well as the capital to finance related investments. Private contractors may offer the expertise and the capital, plus they may assume the risks of complying with regulations.

New management and communications technologies have made it possible for one company (private or public) to manage and operate several utilities from a central office. Provision of water services is based on access to information such as data on consumer demand, on quality levels

and water flows, effluent quality, as well as on financial flows. The ability to collect data and respond to changing conditions rapidly and appropriately is an important determinant of the scope and scale of water service systems. Technological advances in communications, monitoring, computing, and control systems have thus affected the water industry structure at the margins of change. Modern systems will accelerate the drive to larger units. Whether this technological shift will favor privatization or will be quickly adopted by efficient public systems remains to be seen.

CONCERNS ABOUT PRIVATIZATION

Unsuccessful Ventures

In the preface of the Masons Water Yearbook 2000-2001, a British water publication, Owen (2001) stated the following about water utility privatization:

Privatization, or private sector participation, has already enhanced economic growth worldwide, but in contrast with telecoms, power and transport, for example, its impact on the water sector has been much less marked, (because of its very different risk profile) despite demonstrable need. Only about six percent of the world's population is currently served by private sector operators, and since more than one billion worldwide have inadequate water supplies, and some two billion no adequate sanitation, the potential market is truly very large-quite beyond the capacity, moreover, of the existing major players to service it.

However, because water is a highly political issue, and existing infrastructure is often highly fragmented, market evolution has proved slower than earlier over-optimistic predictions suggested. Future development will be governed by creative solutions involving true partnerships of all the stakeholders in the sector, taking account of local political and social sensibilities.

Several major cities around the world have availed themselves of private management under various arrangements, including all of the United Kingdom, Berlin, Buenos Aires, Johannesburg, Manila, and Mexico City.

Many U.S. cities also have arrangements with private firms to provide water services, and these firms often reliably deliver high-quality water services at competitive prices, with high levels of consumer satisfaction. As noted earlier, private firms have held roughly a 15 percent share of the U.S. water market for the past 50 years.

Contentious situations can stem from unrealistic contract conditions and strong competition in the process of bidding on water services contracts. And although improved system performance and cost savings have resulted from privatization in some instances, in some cases expected

benefits have not been fully realized. A recent case has been in Indianapolis, which repossessed its water utility from a private contractor (see Box 1-3). For one group's evaluation of the problems with water services privatization, the reader is referred to a 2001 report from the Public Citizen group (Public Citizen, 2001).

Inadequacies in performance can be resolved through negotiation between the contractor and the city. In Ohio, Clermont County's water treatment plant suffered problems of discolored tap water shortly after the country awarded an operating contract to a prominent private firm. Although harmless, the brown water focused criticism on both the county and the company. It turned out that the problem would have occurred independently of who was managing the plant. Corrections were made, with the cost being shared by the operator and the county, while overall cost savings have resulted in a 5 percent rate reduction.

The creation and failure of Azurix Corporation is an example of a market miscalculation in the water utility field (Box 1-4). Rapidly-evolving markets may exhibit instability and they raise questions of the reliability of member firms.

BOX 1-3
Private Delivery of Water Services in Indianapolis

The case of private sector water services in Indianapolis involves shifting the form of privatization from the ownership model to the contract operations model. The system was originally incorporated in 1869 and sold to the founders of the Indianapolis Water Company (IWC) in 1881. Indianapolis has long stood out as the largest U.S. city served by an investor-owned water company, although St. Louis County Water and San Jose Water are other important examples. The IWC also serves some nearby communities.

In 1997, the local gas company purchased the water company, but was required under securities law to put the assets up for sale when it purchased another energy company in 2000. The city chose to purchase the system in order to try to maintain lower rates, take advantage of lower capital costs available to municipalities, and avoid a purchase by foreign interests. An eminent domain process was begun, despite some local dissention. However, although the purchase has not been consummated, the city has issued an RFP (request for proposal) for its operations. The city's wastewater system is currently operated by a private consortium in which United Water Resources, owned by French Suez, plays a central role. The deal struck a blow to the U.S. investor-owned water industry, and water industry analysts will follow the case closely to see whether the shift affects performance.

BOX 1-4
Growth and Decline of Azurix

The Azurix business plan presented to investors in 1999 was based on the expectation of fast revenue growth from radical change in the market structure of water supply and service delivery in the United States and abroad. The company was formed and then spun off (at $19 per share) in a public offering of stock by the energy marketing company, the Enron Corporation, in June 1999. Azurix lost over $1 billion in market value before it was deemed a failure by Enron and was reorganized late in 2000. Azurix eventually discovered it could not compete with the larger, well-established British and French firms and was unable to make a market by trading water. In 2001, Enron filed for bankruptcy in one of the spectacular crashes of a prominent U.S. corporation.

Community Concerns

Communities considering water services privatization options often have many concerns regarding new operations or ownership arrangements. They are concerned about privatization's effects on their monthly water and sewerage bill: what does privatization imply for their short-and long-term bills? They are concerned about water quality: will they continue to receive consistently good-quality water in the long run? Citizens may also have concerns regarding new channels of communication and the airing of grievances: if they have questions regarding their water services under new privatization arrangements, do they voice their concerns with city officials or with a private firm? Communities may also have concerns regarding long-term protection of watersheds that convey raw water supplies, participation in and transparency of policy decisions, and competition after service contracts are awarded.

Communities are nearly always concerned about the possible loss of control over a vital public service. The public and their elected representatives exhibit a natural caution when faced with surrendering control and/ or assets of essential municipal services. The reality of water services privatization is that the public official can never fully transfer accountability to a private operator for reliable delivery of water services, a function that communities believe is a vital public service. If the private operator fails to meet the public's expectations, the public is more likely to protest to the public official than to the private operator. Privatization of water services will only be a net political gain for incumbent politicians if cost reductions and improved service deliveries more than compensate for the loss of control. This political calculus likely means that political control will be transferred only for those services that pose problems in

meeting minimum financial, regulatory, or management standards. That is, systems most likely to be offered for privatization are likely to have structural or managerial difficulties.

A second concern is the recognition by administrators and citizen groups that privatization is not the same as competition. There is a tendency to equate the two, as the private economy is thought to work well because of the pressures of competition that force firms to operate efficiently and to produce what the public wants. However, by definition, when a contract is signed for the management, operation, design, etc., of a water system, only the monitoring and enforcement of the contract terms can guarantee the expected level of performance. Competition in urban water utilities is limited to the period when competitive bids are being

accepted, and it is geographically limited to the system's expanding margins. Bidding for the operation of complex organizations such as water and wastewater utilities is ripe for accusations of political favoritism. A review of the media coverage in competitive bid processes such as those in Birmingham, Atlanta, and New Orleans reveals charges that political favors were granted in connection with these bids.

A third concern is the recourse that will be available if privatization does not work as intended. Terms of remediation must be carefully spelled out in legal and financial terms. Urban authorities must be sure that essential skills and equipment can be regained quickly if the terms of the contract are not fulfilled.

A fourth concern is the possible loss of openness and transparency of utility policies and practices. Deliberations of public bodies are subject to numerous "sunshine" provisions that require open meetings and records. Once a private firm assumes operations, it is no longer clear that business practices and accounts will be open to the public. To ensure transparency, such agreements must be specified in the contract.

A fifth concern is for the long-term protection of the water/wastewater infrastructure and the basic water supply itself. There are questions regarding whether private operators may take "shortcuts" by failing to maintain the system or allowing the degradation of watersheds and groundwater aquifers. Certainly, experience has not shown this to be a problem, but because relatively few long-term operations and maintenance contracts have run their course, little data regarding this concern are readily available.

City administrations may be concerned with the possible loss of revenues to the general treasury and with loss of service functions to other departments. In many cities, the funds of utilities are comingled with general funds. Some cities have enjoyed profits from utilities that are used to support general government functions (although most cities impose a "no profit-no loss" constraint on their utilities). Free water and wastewater services to city parks and hospitals may have to be foregone, as well as disaster response services that have been rendered by the water utility.

Concern for the welfare of the utility workforce and for the possible loss of local jobs is pervasive. Some fear that workers will be unfairly exploited or that jobs will be lost to nonresident personnel. Most privatization contracts have guaranteed no loss of jobs except through natural attrition. A frequent result has been the upgrading of skills, resulting in increased wages and increased promotion possibilities. Finally, experience has shown that the preparation of adequate contracts is expensive and time-consuming. Outside legal and engineering expertise is usually needed. The review of multiple bids can also be costly.

Concerns of Private Contractors

Preparation of detailed cost and technical proposals for contract operation of a major utility system is a costly exercise. If private financing is involved, lines of credit must be arranged. Some requests for proposals (RFPs) require parent companies to stand as guarantors of performance. Private contractors thus must consider the probability that the awarding process will be fair to all parties, that a contract will be signed, and that they will be permitted to earn a profit.

Because of the high cost of preparing a proposal and to encourage well-qualified firms to bid on a request for proposals, some municipalities have offered to partially reimburse bid-related expenses for the shortlisted firms. Although some public utilities, such as Seattle Public Utilities, have provided compensation to bidders, the amounts have been small compared to the total expense incurred by the bidders responding to the requests. In some instances, it is suspected that municipal requests for proposals have been issued with

no intent of entering a contract, but rather as a means of gauging public managers' performance or for winning concessions from unions on staffing. Another concern of private operators is gaining timely access to accurate condition assessments and maintenance records during their preparation of technical and cost proposals.

Some private operators believe they operate on an "uneven playing field" because publicly owned utilities can issue tax-free bonds, thus raising capital at lower interest rates than the taxable debt available to a private company. A study done in 1999 for the city of Phoenix ruled out private financing for a new water treatment plant largely because city-issued tax-exempt water lease bonds could be issued at a 5.2 percent cost of capital, versus 8.2 percent for private financing using taxable debt and equity (PWF, 1999).

Congress granted an interest-rate subsidy to municipal government

bonds soon after World War I. By exempting investors from having to pay income taxes on bond interest earnings, the federal government gave local borrowers a 250-300 basis points (a basis point is 1/100 of 1 percent; 100 basis points equals 1 percent) cost advantage over private issuers. The difference in borrowing costs accelerated the shift from private to public ownership of water and wastewater utilities during the infrastructure expansion period after World War I.

To obtain and keep their federal interest subsidy, municipal borrowers must maintain public ownership and management control of the debt-financed asset until the bonds are retired. In an attempt to expand the market for privately managed capital projects, in June 2001 federal tax legislation that would exempt water and wastewater bonds from volume caps was proposed. This bill (H.R. 2207) was referred to the House Ways and Means Committee, where it is expected to be considered as part of a larger review of the federal tax code.

Federal grants provided up to 85 percent of the capital cost of publicly owned wastewater treatment plants built during the 1970s and 1980s. In 1988, Congress voted to phase out these construction grants, but since 1989, Congress has provided seed funding for states to set up revolving loan funds for municipal wastewater projects. These revolving funds can be used only for municipally owned facilities.

CONCLUDING OBSERVATIONS

This report's executive summary lists the study's key findings. A few of those observations are nonetheless worth emphasizing in this introductory chapter. It is clear that no single model of water services privatization fits all situations. Indeed, continued public ownership and operation is the most likely outcome for the majority of water utilities. A major effect of the availability of private alternatives has been to increase the resolve of the publicly owned and operated water utilities to sharpen their operations, reduce costs, and upgrade the quality of services. Large municipal water utilities typically have the expertise and resources to address emerging challenges. Small to medium-sized water utilities generally have more difficulty in meeting higher quality and health standards and in responding to pressures of population growth. Small municipalities may thus be the most fertile ground for private participation in water utility operation and management.

Privatizing U.S. Water

INTRODUCTION

Over the past decade there has been a growing concern regarding the quality of the water that Americans get from their taps. Incidents such as the Cryptosporidium outbreak in Milwaukee in 1993 that sickened about 400,000 people and killed more than 50 have contributed to the perception that there is a significant decline in tap water quality.[1]

The single most important factor behind the deterioration in tap water quality, wherever it has taken place, is the decline in the water services infrastructure. Government resources available for water sector investment have been far below what is needed for a well-maintained public system. Almost a century old in places, the U.S. water system is in need of replacement or repairs.

In our everyday lives, one response has been increasing dependence on bottled water. This is ironic because tap water still remains much better regulated than bottled water. As a landmark 1999 Natural Resource Defense Council study suggests, bottled water is not required to meet the federal regulatory standards (Environmental Protection Agency) on safe drinking water and causes far greater environmental problems.[2]

This paper is part of an ongoing attempt to assess the privatization of water services as a governmental response to the decline in water services infrastructure, particularly in the U.S. It suggests that rather than allocating public funds for investing in public water systems, local governments have removed legal and regulatory restrictions that prohibit private operation of publicly owned utilities.[3] As a result, the 1990s saw increased dependence on private sector water services and related investments. The pace of private investment has further increased since 2000. This is also a global trend, particularly in middle- and low-income countries where it is promoted primarily by powerful international financial institutions.

This paper is divided into three sections. The first section provides a survey map of privatized water utilities in the U.S. The survey identifies the main national and international corporations and investor-owned utilities involved in the U.S. water sector. And it stresses the difficulty of monitoring such actors, since they are not required to be as transparent as publicly owned utilities. The second section looks at how the investment gap in water-related services emerged, and how this changed the context for private sector investment. The third section examines the specific form that private sector investment has taken. In particular, we stress how multinationals dominated the process of privatization until very recently, and how global trends influenced the multinationals' roles in the U.S.

BACKGROUND

This may be a particularly significant moment in the history of private sector involvement in public water provision. RWE, formerly the world's third-largest water multinational and the largest operator in the U.S, announced recently its decision to disinvest from its water business.[4] But we are also seeing growing investor interest in the water business as the perception of an investment gap grows. Several governmental initiatives have made it easier for private utilities to acquire other smaller utilities or enter into public/private partnerships, and help tap this investor interest. For example, the 1996 Safe Drinking Water Act (SDWA), has specific provisions that "require the consideration of structural alternatives that involve fundamental changes to the organization, ownership, or management of a water system, including regionalization and consolidation."[5] Similarly, "some analysts believe that GASB 34 [Rule 34 of the Governmental Accounting Standards Board] will stimulate privatization activity in the water sector because it will provide clear incentives for improving asset management through private sector expertise."[6] And while indiscriminate and multinational-led water privatization has come under critical scrutiny around the world, in the U.S., and elsewhere, there continue to be initiatives that may result in privatizing the drinking water supply. It will be particularly important to monitor this development in the coming months and years.

By providing systematic information about how the privatization of public water utilities is taking place, we seek to further the debate about whether such privatization is appropriate and what alternatives are available to us. Through its General Com-

Written by Shiney Varghese, IATP Trade and Global Governance Program

Institute for Agriculture and Trade Policy

2105 First Avenue South | Minneapolis, Minnesota 55404 | USA | (612) 870-0453 | iatp.org

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ment 15 in 2002, the United Nations recognized water as a human right. The General Comment, while not mandatory, provides guidelines that member-states could follow to ensure that people have affordable access to safe water. As a basic right, water must be universally available, of good quality, and affordable. Historical experience suggests that private corporations are more likely to fall short of these parameters than the public sector. For example, private water companies that had dominated the U.S. water supply for most of the 19th century were unable to make universal access to clean water a reality, and cities were ravaged by epidemics. Our research also suggests that private water companies are far less transparent about their operations, making it difficult to monitor their performance.

Recent experiences privatizing water services in the Global South have been negative too. From Cochabamba to Manila, from El Alto to Soweto, people experienced one or more of the following: price hikes, water quality deterioration, water cutoffs, cholera outbreak or indirect appropriation of water away from other livelihood needs such as subsistence agriculture. In the United States, cities such as Atlanta have had negative experiences with privatization.[7] These shared experiences have helped build a vibrant international movement that connects local and international activists who oppose privatization and upholds the principle of right to water by addressing issues of equity, efficiency and environmental health.

The shortcomings of privatization of public water utilities suggest the need to formulate innovative strategies for meeting the necessary substantial public investment in water services. If such investment occurs, it will to a great extent address widespread concerns about public water quality in the United States. If it can also address equity concerns (as a recent initiative in Detroit did) and efficiency, it can further bolster consumer confidence in public utilities.[8] This may partially help reverse the trend toward increasing dependence on bottled water uses, one of the most resource-intensive and ecologically wasteful ways of meeting drinking water needs.

SURVEY OF U.S. WATER PRIVATIZATION

Based on statements in the international and domestic context, the U.S. government appears to view access to water as a need, rather than a right. This recognition, though relatively limited (compared to, say, South Africa, where it is a constitutionally guaranteed right), still means that the government is responsible for ensuring that public interests are met. For example the Safe Drinking Water Act clearly states it is the responsibility of the public water system to provide "safe" drinking water and comply with the National Interim Primary Drinking Water Regulations (NIPDWR).[9]

Water must also be universally available and affordable. Historically, as the discussion in the next section indicates, private corporations are more likely to fall short of expectations than the public sector based on these parameters.

According to the 2000 Census, more than 99 percent of the U.S. population has access to potable water and modern sanitation.[10] About 90 percent of the U.S population gets its water from a public-supply system.[11] Most live in urban centers, where the city/county water department is responsible for delivering it. While earlier most of the investments came from federal and state funds, in the past decade many cities have sought private sector investments to meet this responsibility. This shift was facilitated in the 1990s under the first Bush administration and later the Clinton administration by the removal of regulatory and legal restrictions that had previously prohibited private operation of publicly owned utilities.[12]

The U.S. has been identified as one of the largest water markets in the world. How to make use of this new opportunity has been the focus of many corporations doing business in the water sector. For example, in 2005, The Wall Street Transcript organized a conference titled "Profiting in the Water Industry: Tapping a reservoir of wealth." The conference reported that in the U.S. alone the water industry was expected to grow 7 percent a year to $150 billion. The announcement promised participants an opportunity to discover investment opportunities as well as help in identifying the most promising and profitable niches in the $150 billion water industry.[13]

Earlier this year, IATP initiated a national-level survey on the privatization of U.S. water utilities. We contacted public utility commissions in every state to get a list of private operations, if there were any. We did Internet research to bolster that information, in addition to following up with each private utility to make sure the information was up to date.

The survey explored the extent that drinking water supply and wastewater services in the United States are run by transnational and national corporations. The results of our survey, searched easily by state on our user-friendly map, are available at http://www.tradeobservatory.org/waterprivatization/.

RESEARCH FINDINGS[14]

The primary objective of this survey is to track changes in the ownership of our water systems. The following information provides a brief synopsis of the data presented on the map. The information here is the best we could find at the time of conducting the research. Any inaccuracies speak to the difficulty in keeping on the trail of a national or multinational corporation often making changes to its operations. Private water companies are more often than not hesitant to provide accessible information about their operations. In doing research, we found company representatives to be on the defensive about our questions, even though these questions were non-provocative. It was extremely difficult to find more information even when we dug hard for it. Thus, some of the information from this survey may be incomplete. In an attempt to continually monitor the privatization of water utilities, we hope to update this Web site regularly. We look forward to getting your help in doing this.

Our survey found that the late 1990s saw the privatization of water services taking a stronger hold in the United States. In the 43 states that have private water companies operating within them, almost 600 cities now hold a contract with a pri-

vate water company, while 20 cities have more than one private company operating within the city limits.

The survey found that states that have the highest numbers of cities with private water company contracts include California (100 cities), New Jersey (66 cities), Pennsylvania (63 cities), New York (46 cities) and Illinois (33 cities), and together these five states account for more than half the total.

In California, where water privatization is most extensive, there are several national and multinational water companies in operation.[15] Golden State Water Company, a subsidiary of American States Water Company, has the strongest hold in California.

With one significant exception (Veolia Water North America, subsidiary of Veolia Environment; www.veoliaenvironnement.com/en/), most companies do not offer much information about their contracts. American States Water Company provides little information on its Web site (www.aswater.com) or when contacted about the types of contracts with cities of operation. Similarly, neither RWE (www.rwe.com) nor Suez (www.suez.com) divulged much information on their contract agreements.[16] We found AIG (American International Group) and Bechtel, while not significant players, to be least more open.

Currently, the largest publicly traded water company in the United States is Aqua America. It is based in Philadelphia and operates in 13 states (Florida, Illinois, Indiana, Maine, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas and Virginia and Kentucky). There is little information on its Web site,[17] and when contacted the company would not provide any information "other than what is available on our Web site." In 2005, Aqua America continued to build on its previous success, making a record number of acquisitions (30) and witnessing a 53 percent increase in its share price. The company was recognized for its contribution in "revitalizing investor interest in private water companies operating in the U.S.," by the Judges of Global Water Award in 2006.[18] It is our understanding that they are expanding mostly by buying small private systems.[19] According to recent reports both Aqua America and American Water say they aim for between 20 and 30 acquisitions per year.

Tracking these national and multinational corporations is also a challenge because they are continually making changes to their structure such as adding and dropping cities and subsidiaries, trading divisions of their operations, and changing the name of their corporation completely. They also frequently alter contracts.

HOW CAN YOU HELP?

Continual changes in the corporate water world and ownership make accurate research difficult, but with extensive help from visitors like you, we can do it. Please send us any information that you know about your local water operations that may be different or more recent than what we have available. Hopefully, our interactive map will also prompt further research on the state of our local water systems.

Please help us improve the accuracy and content of this page by emailing us at svarghese@iatp.org.

Also, as you can see in the map, both in Stockton and Felton, California, residents are opposed to having local water systems privatized. If the utility in your area is contemplating privatization as an option or if you are part of a community organization that is involved in similar struggles, please write to us.

WHAT HAS LED TO PRIVATIZATION?[20]

Privatization of public services is not unfamiliar terrain for the United States. In fact, the U.S. offers a very receptive environment for privatized basic services, such as in the health sector. As private sector investment in water increases day by day, we hear more and more references to water as an economic good. It is sometimes called "Blue Gold" and is also known as the "21st century's oil." Such references to water have caused concern among citizen groups around the world.

In fact, private water companies dominated the U.S. water supply for most of the nineteenth century.[21] But their market share dropped as governments, in response to crises in public health, stepped in. The calls for transition from private to public ownership arose from the same concerns invoked by advocates of privatization of public water utilities in the developing world today. The business of managing the water supply requires a lot of capital. In the 19th century, private companies were not willing to invest in the infrastructure and provide service to growing municipalities in the U.S. They were unable to make universal access to water a reality, and cities were ravaged by epidemics. For example, in the 1830s, New York City took over most of its water supplies partly in response to the cholera epidemic of 1832 and partly in response to inadequate water supplies, especially during fires.[22]

The 20th century saw the government investing substantially in the nation's water infrastructure, including financial assistance for the adoption of new wastewater standards.[23] Thus the rate of growth in public water systems far out-numbered that of private water systems. By the end of the century the scale tipped in favor of public water systems (there were over 3,179 systems, over 53 percent of which was in the public sector) and the ratio did not change substantially over most of the next century.[24]

An EPA survey of water utilities in 1986 showed that public utilities owned 45.5 percent of the more than 52,000 water utilities, and 14.7 percent were investor owned. The remaining were under the ownership of home owners associations or were categorized as ancillary—mobile home parks, schools, hospitals, etc.[25] However, the proportion of water services in the United States provided by private water companies, whether measured by customers served or volume of water handled, has remained close to 15 percent since World War II.[26]

But while the percentage of consumers served by the private and public sector has remained more or less the same, what has fundamentally changed is the context of privatization.

Above all, there is recognition that water-related services in the U.S. urgently require significant capital investments. Water-related services are capital-intensive. Continual investment is necessary for the expansion of water networks to new areas as well as for the upkeep and maintenance and occasional replacement of existing underground assets like water pipes and sewers.

According to a study released in February 2001, the Environmental Protection Agency (EPA) estimated that the U.S. should invest $151 billion over 20 years in new drinking-water infrastructure. In 2002, the EPA reported that capital funding needs for wastewater infrastructure through 2019 could total between $331 billion and $450 billion.[27] Thus the nation's 54,000 drinking water and 16,000 wastewater systems face significant infrastructure funding needs over the next 20 years. Despite U.S. spending of billions on infrastructure each year, there is an annual shortfall of at least $11 billion to replace aging drinking water facilities near the end of their useful life and to comply with existing and future federal water regulations.[28]

Federal assistance has not kept pace with demand. Since 1997, Congress has appropriated only between $700 million and $850 million annually for the Safe Drinking Water Act State Revolving Loan Fund (SRF) program, enacted in 1987. The enacted funding level for FY 2005 was $850 million, less than 10 percent of the total national requirements.[29]

In addition, cities are facing financial constraints. A Pacific Institute study quotes the National League of Cities financial survey (Pagano, 2004), which found that "63% of municipal finance officers believed their cities were less able to meet financial needs than in the previous year, and 61% felt that they would be less able to meet needs in 2005 than in 2004."[30]

The study also points to two other potential needs for funds: to meet regulatory standards and requirements as well as to address increased security concerns. It points out that municipalities and drinking water utilities are still responding to 1996 amendments to the Safe Drinking Water Act (SDWA). Also, implementation of the US EPA Action Plan (2004b), a collaborative effort between the EPA, federal partners, and the water industry that identifies infrastructure protection needs, is without full federal funding and will almost certainly affect nearly every municipality in the U.S.

The turn to private corporations has occurred in the context of this investment gap (though, ironically, it is not clear whether the private companies that have entered the field have been investing their own capital or relying on rate increases) to upgrade the infrastructure. However, some analysts have argued that the EPA's projected needs can be met with relatively modest rate increases, on average. Of course, for systems that are "worse than average," the financial challenge is harder to meet or may be overwhelming without external (e.g., federal or state) assistance.[31] Inverted rate structures with "life-line rates" (charging a very minimum payment for the first basic unit, and then applying the principle of the more you use the more you pay) and cross subsidization has been suggested as another option for meeting the challenges of water financing. Such alternatives need to be carefully explored and supported if they do not compromise equity and sustainability considerations.

GLOBAL CONTEXT OF U.S. WATER PRIVATIZATION

In the previous sections, we looked at some examples of regulatory changes, and how the investment gap in water-related services emerged. In this section, we will explore the specific form that private sector involvement has taken. In particular, how multinationals dominated the process of privatization until very recently, and how global trends influenced the multinationals' roles in the U.S.

From the mid-20th century until the middle of the 1980s, network utilities (e.g., electricity, telecommunications and water) were, with a few exceptions, state-owned monopolies in almost every country in the world. Almost all countries (except for France and the United States to a limited extent) had publicly operated water utilities. These public utilities were responsible for water services in urban areas and semi-urban areas, while in most rural areas water was self-supplied.

However, developing countries had much more limited coverage. Public-sector utilities were unreliable even in urban areas, and consumers often did not get the service they wanted. In the 1980s, there were about 1.8 billion people living in rural areas of developing countries that were not connected to public water systems. Of these, only one person in five had access to clean water.

The main objective of the "U.N. Decade of the Drinking Water" (1981-90) was to expand coverage to reach even the rural areas. There was no attention given to improve the operational performance of existing public sector utilities, and the percentage of people served with some form of improved water supply reached only 79 percent (4.1 billion) in 1990; the percentage of people with access to excreta disposal facilities reached only 55 percent (2.9 billion people) in the same period.[32]

The reasons were many. In this period, countries' investment in water services (drinking water supply and sanitation) infrastructure went down dramatically, while demand for water services kept increasing (due to population growth, rapid urbanization and economic growth). State-run water supply and sanitation programs deteriorated in many countries.

Also, there were no easy answers to questions of efficiency, equity and sustainability, or how to finance the ever-expanding need for infrastructure development and maintenance. Experiences of water scarcity, water-related disputes, wasteful use of water resources, and lack of finances—all were ascribed to public management of water resources. Public water utilities began to be identified not only with underperformance but also with inefficiency and corruption.

Around the same time multilateral lending agencies, such as the World Bank and International Monetary Fund (IMF), concluded that the private sector might provide an answer to the inefficiencies of the public sector. This ideological shift, combined with the crisis in public sector finance, forced many southern governments to privatize water and sanitation services through some form of public-private partnership (PPP) or private sector participation (PSP).

The crisis in public sector finance was also the result of a paradigm shift. Both in developed and developing countries, the use of public funds was no longer considered appropriate for the provision of basic services. This was sometimes because of structural adjustment conditionalities imposed on countries by the WB and IMF, and/or because of the acceptance of neo-liberal ideology by the country's elite. The scarcity of public funds for basic services, combined with an ideological stance in favor of the private sector, saw the UK privatizing its water services under the Thatcher administration.

Water was identified as a mismanaged "scarce commodity," and toward the late 1990s the World Bank estimated the global market of water services to be worth $800 billion. The 1990s saw public water utilities in several developed countries seeking private investments. Around this period in the U.S., where the vast majority of water services were still in public hands, private water corporations generated more than $80 billion a year in revenue.

Private water corporations also began to work systematically in the global arena to influence opinion. Part of this was to cultivate relations in influential governments like that of the U.S., which have considerable influence in international institutions like the IMF and World Bank. Such ties extend to global water policy think tanks and networks such as World Water Council and Global Water Partnership. For example, GWP's chair, Ms. Margaret Catley-Carson, was also chair of Suez Lyonnaise des Eaux's Water Resources Advisory Committee.[33]

While privatization was set in motion in the mid-1980s in Latin America and East Asia, it was only in the late 1990s that water privatization began happening in South Asia and most of Africa. From 1988 to 1995, the pace of privatization was not very fast: In the seven-year period, private utilities serviced less than 100 million people all over the world. However, in the next three years (1995-98), about 40 percent of total infrastructure investment in developing countries involved private sector participation. [34]

But private sector participation created new problems. The private sector did not make the kind of investments that policymakers had hoped for. And by the late 1990s, price hikes and deterioration in the quality of services (associated with a cutback in workforces amongst others) had become a norm where privatization had been introduced. Water cutoffs (sometimes in response to non-payment of bills) gave rise to a questioning of privatization. In 2000, protests in Bolivia drew global attention to the problems associated with water privatization, particularly in a developing country context. Civil society protests around water privatization began happening in Asia, Africa and other parts of South America. The Kyoto Water Forum (2003) saw the coming together of various strands of the water justice movement to reject the dominant paradigm of water management through the commodification/commercialization' of water.

Perhaps partially in response to such opposition in developing countries, global water multinationals shifted their emphasis. They had identified the growth potential to be in North America and Europe. While the European market was expected to grow to 37 percent in 2015 (from 26 percent in 2004) the North American market was expected to grow from 19 percent to 36 percent in the same period.

Some multinational water companies had come to the conclusion that it was risky to conduct business in developing country situations. For example, RWE, the German energy company that had just ventured into the water business through an acquisition of Thames Water in UK, said it had a competitive position because of its focus on "stable" markets (countries in Europe and North America, as opposed to developing countries).[35]

With its acquisition of American Water Works, (then the largest publicly traded, investor-owned water company in the United States) in early 2003, RWE had become the third biggest multinational in the world water business.

Since the 1990s, the U.S. has seen increased private operation of public utilities, in particular by foreign water multinationals such as Suez and Vivendi. Much of this growth by foreign water multinationals happened through acquisitions of already existing water operations in the United States.[36] For example, French water company Vivendi, the world's largest environmental services provider, acquired United States Filter, the largest in the U.S. till then, in May 1999, and soon after, in 1999 Suez Lyonnaise des Eaux, a world leader in private infrastructure services, announced plans to acquire United Water Resources Inc. (UWR) the second-largest water services company in the U.S.[37] Statements by Bill Alexander, CEO of Thames Water, that the "U.S. water market represents [the] best growth opportunity worldwide" caused concern among local authorities and citizen groups in the U.S.[38] Causing further concern was Bechtel's case, Bechtel vs. Bolivia, which was before the International Center for Settlement of Investment Disputes (ICSID) at the World Bank. The case was part of a strategy by Bechtel to use a bilateral investment agreement to better protect its investments in water privatization projects, a distinct possibility if water services were to be included in WTO's General Agreement in Trade in Services.[39]

Despite RWE's claims of being the "prime consolidator of the fragmented U.S. water market," the ride has not been as smooth as RWE had expected. Just as we finished our survey in early 2006, RWE announced its divestment from the global water business. More broadly, analysis of International Community Management Association (ICMA) data has shown a decline in the number of private sector contracts and an increasing trend of re-municipalization of private sector concessions in the U.S.[40] It is tempting to celebrate this as a victory for U.S. citizens groups that want to retain local control of water systems.

CONCLUSION

It may be premature to write off privatization in the water sector more broadly. The recent World Bank Water Sector Strategy Draft continues to advocate the liberalization of the national water sector in both urban and rural areas as an answer to the crisis in water management in developing countries. Even in water supply systems, the private sector continues to be a significant actor. Symptomatic of this is the increased interest and involvement of Private Equity Investment (PEI) in the water business, which is expected to continue over the long-term future.[41]

Also, there is increasing private interest in other sectors of the water business. U.S. based corporations (such as Dow, 3M, General Electric, Danaher, ITT, Pentair and Siemens) are investing in the U.S. water treatment and purification business.[42] It is interesting that some of these companies are also amongst the worst corporate water polluters.

More directly affecting the public drinking water supply is the increased use of bottled water. Despite community opposition, corporations such as Nestle, Coke and Pepsi have been successful in convincing the public that their bottled water is healthier than municipal water. According to a number of studies, bottled water usage is becoming pervasive, which in essence is participating in a new form of privatization of the drinking water supply.[43] In the U.S., despite very high tap water quality standards (unlike bottled water, which is not regulated by EPA), more and more Americans feel the need to opt out of the public water system, and depend on bottled water. This loss of faith is less a result of underperformance of the water utility than of highly successful marketing strategies. This loss of faith sometimes seems shared even by the EPA itself. On December 12, 2006, EPA organized a listening session on "Exploring Bottled Water as an Alternative Compliance Option for Chronic Contaminants Regulated under the Safe Drinking Water Act in Limited Situations for Non-Transient, Non-Community Water Systems." In the listening session itself, citizens' groups argued that this initiative poses a new threat to public water systems.[44]

We need to continue to work to build public water systems that are fully accountable to communities. Such systems would need to have rate structures that ensure that all can afford water, and at the same time bring in both needed revenue and adequate federal funding.

ADDITIONAL RESOURCES

- Tap water that meets federal and state standards is generally safe to drink. However, as a consumer you may have many questions about your drinking water system. A publication by the Environmental Protection Agency (EPA), Water on Tap: What You Need to Know (**www.epa.gov/safewater/wot/pdfs/book_waterontap_full.pdf**), October 2003 is a good resource that may answer many of your questions.

- You can request a copy of the annual water-quality report from your city or check whether it is posted on-line at **www.epa.gov/safewater/dwinfo/**. "Making Sense of Your Right to Know Report" A fact sheet by the Campaign for Safe and Affordable Drinking Water, available at **www.safe-drinking-water.org/rtk.html**, provides a broad understanding of Right to Know Reports. A glossary of the terms used in the report can be found at **www.epa.gov/safewater/glossary.htm**.

- The Safe Drinking Water Hotline (**www.epa.gov/safewater/hotline/**) provides information to the regulated community, state and local officials, and the public about the EPA's drinking water regulations and other related drinking water and ground water topics. Specifically, the Hotline clarifies drinking water regulations, provides appropriate Federal Register citations, explains EPA-provided policies and guidelines and gives up-to-date information on the status of regulations. The Hotline can also provide state and local contacts. Complaints about drinking or ground water should be directed to the EPA Safe Drinking Water Hotline. To contact the Safe Drinking Water Hotline: Call toll-free (800) 426-4791. Call (703) 412-3330 for local or international calls.

- If your city is considering privatization of its municipal water and/or sewer system, you may find all or parts of the following documents, by Citizens Network on Essential Services, relevant: Regulatory Priorities for Water and Sanitation: Perspectives of Private Interests vs. Citizens (**www.servicesforall.org/html/water/regulatory_imperatives.shtml**)

- Assessing the Feasibility of Private Sector Participation in Basic Services (**www.servicesforall.org/html/tools/Policy_Analysis_Series_2_print.shtml**)

North American Citizens Groups working on drinking water related issues

- Clean Water Action **www.cleanwateraction.org**
- Food and Water Watch **www.foodandwaterwatch.org**
- Polaris Institute **www.polarisinstitute.org**
- Sierra Club **www.sierraclub.org/cac/water/**

References

1. U.S. Environmental Protection Agency. "Liquid Assets 2000: Americans Pay for Dirty Water." http://www.epa.gov/water/liquidassets/dirtywater.html

2. Olson, Erik D. 1999. "Bottled Water: Pure Drink or Pure Hype," Natural Resources Defense Council, 1999. http://www.nrdc.org/water/drinking/bw/bwinx.asp

3. The public water system means a system for the provision of piped water for human consumption, through pipes or other constructed conveyances if such a system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. (As defined by Section 141.2(e) of the National Interim Primary Drinking Water Regulations (NIPDWR).

4. RWE is a German energy company that had ventured into the water business through an acquisition of Thames Water in UK, in November 2000.

5. Water Science and Technology Board, 2002. "Privatization of Water Services in the United States: An Assessment of Issues and Experience," National Academy of Sciences. http://books.nap.edu/openbook.php?record_id=10135&page=89

6. Water Science and Technology Board, 2002. "Privatization of Water Services in the United States: An Assessment of Issues and Experience," National Academy of Sciences. http://books.nap.edu/openbook.php?record_id=10135&page=86

7. Luoma, Jon. 2002. "Water for Profit," Mother Jones. November/December 2002. http://www.motherjones.com/news/feature/2002/11/ma_144_01.html

8. Taylor, Maureen. 2006. "A Birth Announcement: We Welcome the Water Affordability Plan," Michigan Welfare Rights Organization, Michigan Citizen. August 27, 2006. http://www.waterobservatory.org/library.cfm?refid=89450

9. Memorandum, WSG 25, dated January 25, 1985, Program Responsibilities of the Public Water System versus the Primary Agent, at http://www.epa.gov/ogwdw/wsg/wsg_25.pdf

10. About 0.64 percent, or 670,986 households, representing more than 1.7 million people, lack complete plumbing facilities in the U.S. For an excellent analysis of the availability of water and sanitation services in the United States see: Gasteyer, Stephen and Vaswani, Rahul T. "Still Living Without the Basics in the 21st Century," by the Rural Community Assistance Partnership http://www.rcap.org/assets/docs/basics/RCAP_full_final.pdf

11. "Public Drinking Water Systems: Facts and Figures" available at http://www.epa.gov/safewater/pws/factoids.html and "Public Supply" available at http://pubs.usgs.gov/circ/2004/circ1268/htdocs/text-ps.html

12. For a discussion on the changes, see Wolff, Gary and Hallstein, Eric 2005, "Beyond Privatization: Restructuring Water Systems To Improve Performance," Pacific Institute for Studies in Development, Environment and Security, December 2005. http://www.pacinst.org/reports/beyond_privatization/Beyond_Privatization.pdf

13. Wall Street Transcript, "Profiting in the Water Industry: Tapping a reservoir of wealth," December 2005, http://www.twst.com/conferences/water_december/water_december.pdf Report on the conference at: http://www.verticalpulse.com/my_weblog/the_water_industry/index.html

14. I thank Jasmine Hannah for doing the survey of the U.S water utilities, as well as for a preliminary report of the survey, that made this project possible.

15. Amongst them are: American States Water Company, California Water Service group, Golden State Water Company, Southwest Water Company, United Utilities and RWE, Suez, Veolia Environment, (and to a very limited extent, American International Group (AIG).

16. RWE is currently in the process of disinvesting from its water business in the United States (and globally). http://www.illinoisamerican.com/awpr1/newsroom/press_releases/page13740.html

17. The information provided by Aqua America is aggregate for each of the states where it operates and is limited to few indicators such as "consumers served" and counties that they operate in. http://www.aquaamerica.com/Library/InfoManage/Guide.asp?FolderID=33

18. The Global Water Awards, http://www.globalwaterawards.com/watercomp.php

19. Personal Communication with Ruth Caplan, Alliance for Democracy, November 30, 2006

20. I thank Gary Wolff for taking time to comment on an earlier draft of this section.

21. In 1800, of the 16 waterworks in the United States, 15 (93.7 percent) were owned by private sector. By 1850 it was still as high as 60.3 percent, and toward the end of the century the private sector owned about 46.8 percent of the water utilities. Baker M.N. "Water Works" in Edward W. Bemis ed. Municipal Monopolies (New York: Thomas Crowell & Company 1899) quoted in Beecher, Janice A., Dreese, Richard D. and Stanford, John D. Regulatory Implications of Water and Wastewater Utility Privatization, The National Regulatory Research Institute, July 1995, p.21.

22. For a brief history of the development of the water services in New York (initially started as an enterprise of Chase Manhattan Company), see Koeppel, Gerard T. Water for Gotham, Princeton University Press, Princeton, N.J., 2001; and Melosi, Martin V. Full Circle: Public Goods versus Privatization of Water Supplies in the United States, Proceedings of the International Summer Academy on Technology Studies 2004. http://www.ifz.tugraz.at/index_en.php/filemanager/download/309/Melosi_SA%202004.pdf

23. This transition from private to public ownership accelerated largely because of a legislative change after World War I when Congress exempted interest payments on municipal bonds from federal income tax, assuring municipalities the opportunity to issue bonds at lower interest rates. By the early 1960s, there were more than 19,000 municipal water systems alone in operation throughout the U.S. that accounted for a little over 50 percent of U.S. water utilities.

24. Hall, Ellen and Dietrich, Andrea. A Brief History of Drinking Water, American Water Works Association, 2000. http://www.awwa.org/Advocacy/news/info/HistoryofDrinkingWater.cfm

25. Immerman, Frederick W. Final Descriptive Summary: 1986 Survey of Community Water Systems (Washington DC: Office of Drinking Water, US EPA, 1987, Table 2-2), quoted in Beecher, Janice A., and Mann, Patrick "Deregulation and Regulatory Alternatives for Water Utilities," The National Regulatory Research Institute, February 1990.

26. According to the National Association of Water Companies (NAWC), As quoted in the Submission of the United States to the Round Table on Competition and Regulation of Water Supply, DAFFE/COMP/WP2/WD (2004) 11, Working Party No. 2 on Competition and Regulation of OECD, 4th February 2004.

27. American Society of Civil Engineers, Waste Water. http://www.asce.org/reportcard/index.cfm?reaction=factsheet&page=7

28. American Society of Civil Engineers, Drinking Water. http://www.asce.org/reportcard/index.cfm?reaction=factsheet&page=6

29. American Society of Civil Engineers, Drinking Water. http://www.asce.org/reportcard/2005/page.cfm?id=24#policy

30. Wolff, Gary and Hallstein, Eric 2005, Beyond Privatization: Restructuring Water Systems To Improve Performance, Pacific Institute for Studies in Development, Environment and Security, December 2005. http://www.pacinst.org/reports/beyond_privatization/Beyond_Privatization.pdf

31. Allbee, 2005, as cited in "Beyond Privatization" by the Pacific Institute, December 2005 see above.

32. In 2000, the percentage of people served with some form of improved water supply was 82 percent (4.9 billion) and the proportion of the world's population with sanitation facilities was 60 percent (3.6 billion) Source: World Health Organization, http://www.who.int/docstore/water_sanitation_health/Globassessment/Global1.htm

33. Suez Lyonnaise des Eaux. "Suez Lyonnaise des Eaux creates the Water Resources Advisory Committee, a group of international experts established to brainstorm on major water resource issues." February 24, 2000. http://www.waternunc.com/gb/lyon48gb.htm

34. However note that, these projects are rarely financed exclusively by private funds. They more typically attract some public financing to complement private funds. This form of private participation is called public-private initiatives (PPIs) or public-private partnerships (PPPs).

35. RWE Group, RWE Thames Water, August 12, 2003, London.

36. Dahlburg, John-Thor. "Tap Water Around the World Developing a French Flavor." Los Angeles Times. April 30, 2000. http://waterindustry.org/Water-Facts/SLE-7.htm

37. U.S. Water News Online. "Suez Lyonnaise Des Eaux completes acquisition of United Water Resources." August 2000. http://www.uswaternews.com/archives/arcsupply/tsuelyo8.html

38. Document on Conference Call (Bill Alexander, CEO Thames Water, Chris Bunker, Finance Director Thames Water) on Completion of the acquisition American Water Works RWE Group, RWE Thames Water, January 13, 2003.

39. For an analysis see, IATP calls on GATS and Water, Civil Society Call to the World Summit on Sustainable Development, Johannesburg, 2002, http://www.citizen.org/cmep/Water/conferences/articles.cfm?ID=8157; A Civil Society Call to the Ministerial Conference, Third World Water Forum, Kyoto, 2003, http://www.waterobservatory.org/library.cfm?refID=33790; and Call to "Keep water out of WTO" to WTO Ministerial, Cancun 2004 (in Spanish) http://www.tradeobservatory.org/library.cfm?refID=33719

40. I thank Stephen Gasteyer for pointing me to this trend.

41. Stuart, Alix Nyberg. "Water for Profit." CFO Magazine. February 1, 2007. http://www.cfo.com/printable/article.cfm/8582008/c_8613584?f=options. An analysis of this is beyond the scope of this paper.

42. Maxwell, Stev. "The State of the Water Industry, Who Will Pay? Who Will Profit?" The Environmental Benchmarker and Strategist TM. Winter 2006 Issue, pp: 1-9. http://www.summitglobal.com/acrobat_pdf/Maxwell_WaterIssue2006.pdf

43. Stevensen, Mark. "Bottled Water Sales Reveal Poverty Gap." The Standard. March 17, 2006. http://www.thestandard.com.hk/news_detail.asp?we_cat=6&art_id=14334&sid=7092638&con_type=1&d_str=20060317

44. To see why this threatens public water systems see Cohen, Arthur. (SANIPLAN), Statement made during the Public Comment section scheduled at the end of the day at the EPA Listening Session, December 12, 2006, http://www.waterobservatory.org/library.cfm?refid=96697

THE STATE OF PUBLIC WATER
IN THE UNITED STATES

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Executive Summary

Nearly nine out of ten people in the United States receive their water service from a publicly owned utility. Although water privatization receives a great deal of attention from policy makers, the dominant trend is in the other direction — toward public ownership.

There are many good reasons for this trend. By owning and operating their water and sewer systems, local governments have control over the decisions that determine the cost and quality of services that are essential for public health and wellbeing as well as economic viability. This control allows governments to direct development, planning and growth and to better protect the environment and sustain their local economies.

Food & Water Watch reviewed eight years of data from the Federal Safe Drinking Water Information System to document the ongoing annual shift toward public ownership.

Food & Water Watch also conducted a comprehensive survey of the water rates of the 500 largest U.S. community water systems and found that large for-profit, privately owned systems charged 59 percent more than large publicly owned systems. This is the largest water rate survey of its kind in the country.

Key Findings

Public water prevails across the country. The vast majority of people receive tap water from a publicly owned utility.

- Publicly owned utilities served 87 percent of people that have piped water service.
- For-profit water companies own only about 10 percent of water systems, most of which serve small communities.

There is an ongoing nationwide trend toward public ownership of water systems. More and more people each year receive their water service from a public utility.

- From 2007 to 2014, the portion of people with water service from publicly owned systems increased from 83 percent to 87 percent.
- Over that period, the number of private systems dropped 7 percent (a loss of nearly 1,700 privately

owned systems), while the number of people served by privately owned systems fell 18 percent (8 million people).

- At the same time, the number of publicly owned systems remained fairly constant, but these public systems saw their service population grow by 10 percent, adding 24 million people to their networks.
- Public water utilities are taking over and consolidating private systems.

Public service is the most affordable option. A survey of the 500 largest community water systems reveals:

- On average, private for-profit utilities charged households 59 percent more than local governments charged for drinking water service — an extra $185 a year.
- The average government utility charged $315.56 for 60,000 gallons a year, while the average for-profit company charged $500.96 (59 percent more) for the same amount of water.
- In New York and Illinois, private systems charged about twice as much as their public counterparts.
- In Pennsylvania, private systems charged 84 percent more than public systems, adding $323 onto the typical household's annual water bill.
- In New Jersey, private systems charged 79 percent more than public systems, adding $230 onto the typical household's annual water bill.

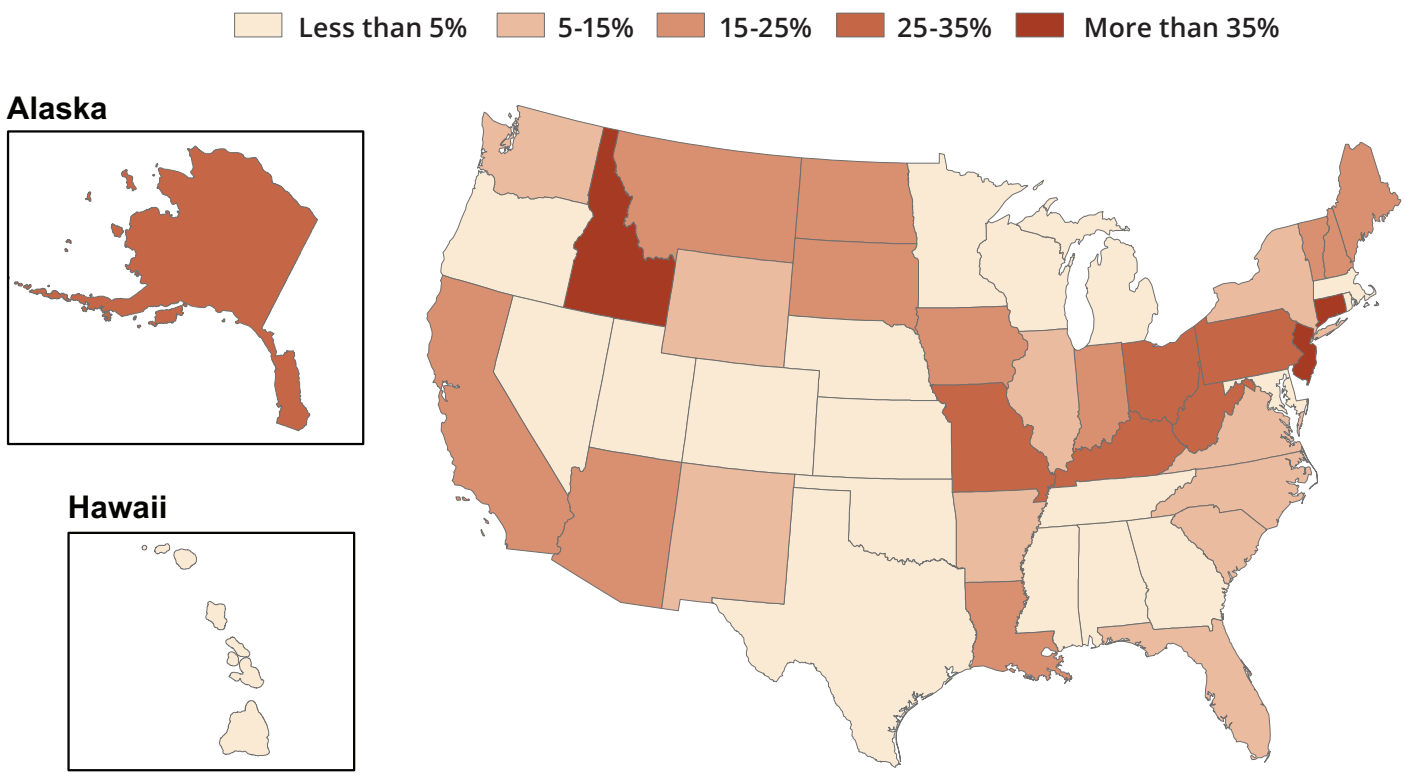
Background: The Progressive Era's Turn to Public Ownership of Water Systems

Historically, public provision of water services has led to better quality, less-expensive and more-equitable service, and substantial improvements in public health.

Private water companies had served many of the nation's largest cities until the turn of the twentieth century, when cholera outbreaks and destructive fires inspired a surge of cities to take over water provision for health and public safety reasons. From about 1880 to about 1920, thousands of cities — including Los Angeles and San Francisco — assumed public control of their water systems. This wave drew inspiration from earlier movements toward public water in Boston, New York City, Philadelphia, Baltimore and Chicago.[1]

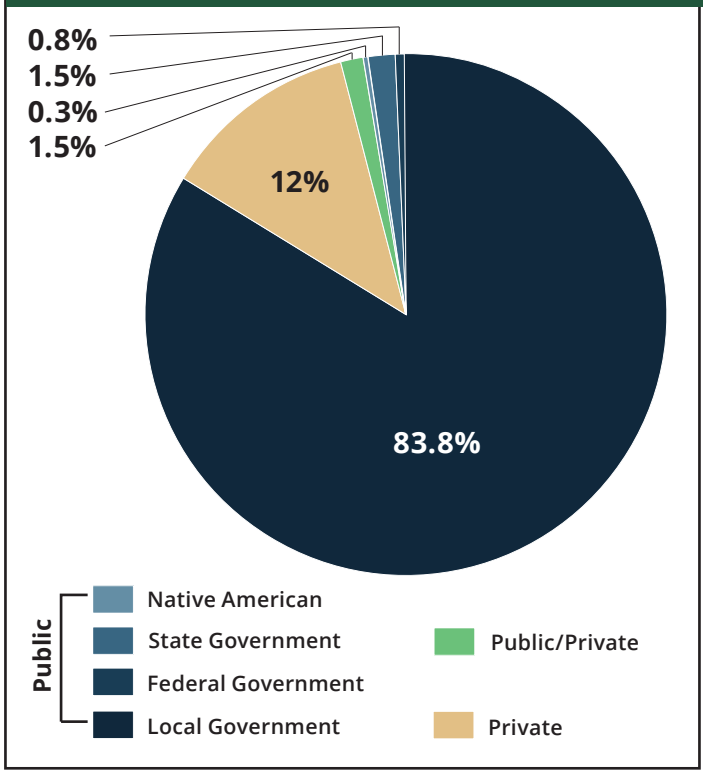
In the 1800s, New York City took over responsibility for providing drinking water services, creating a new system apart from the one privately held by the Manhattan

Figure 1: Private Ownership of Community Water Systems by Service Population (2014)



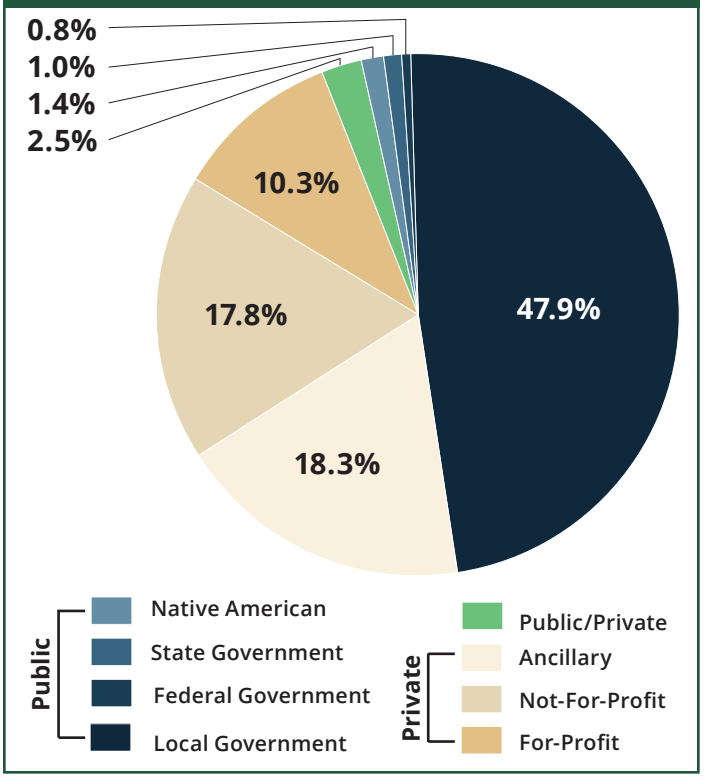
SOURCE: U.S. Environmental Protection Agency. Safe Drinking Water Federal Information System. FY2014 Inventory Data.

Figure 2: Community Water System Ownership By Number of People Served (2014)



SOURCE: U.S. Environmental Protection Agency. Safe Drinking Water Federal Information System. FY2014 Inventory Data. June 30, 2014.

Figure 3: Community Water System Ownership By Number of Systems (2014)



SOURCES: Food & Water Watch calculations based on U.S. Environmental Protection Agency (EPA). Safe Drinking Water Federal Information System. FY2014 Inventory Data; U.S. EPA. "2006 Community Water System Survey: Volume 1." February 2009 at 9.

Company.[2] The city did this after the Manhattan Company, the predecessor of JPMorgan Chase,[3] was blamed for an outbreak of cholera that killed 3,500 people and for inadequate water infrastructure to fight fires.[4] Similarly, by 1900, concerns about water supply, high prices and poor service had led both Los Angeles and San Francisco to take public control of their water systems from private entities.[5]

For customers, public ownership meant lower water prices. An 1899 federal survey found that public water utilities were charging rates that were 24 percent less than those of private water companies at the time.[6]

Public ownership also significantly expanded access and improved water quality, helping to prevent diseases.[7] Many cities made large improvements to their water supplies and built new treatment facilities.[8]

For example, after Billings, Mont., bought the Billings Water Company in 1915, the city built a purification plant and extended water lines to serve the whole city.[9] After New Orleans took over the local private water system in 1908, the city made investments that cut waterborne disease rates dramatically. The private water company that had served the city distributed unfiltered water from the Mississippi River, which was contaminated by sewage dumped upriver. After residents successfully organized to strip the company of its charter, the city purchased the system and, over the next 15 years, undertook massive improvement projects to expand service and install a filtration system.[10]

Public ownership reaped great public health outcomes in large part because it allowed for more-equitable service. Local governments extended water lines to low-income and black communities that had been neglected by private companies.[11] One analysis found that public ownership of water systems cut typhoid rates in black populations in the South by as much as 42 percent, yet public ownership had no statistically significant impact on typhoid rates among white populations.[12]

Public ownership remains the most affordable and equitable option today.

The State of the Industry Today

Publicly owned utilities provide most water and sewer services in the United States.[13] In 2014, public entities served about 87 percent of people with piped water service (see Figure 2).[14] Private water service is concen-

trated in a few states. In 25 states, private water companies serve less than 10 percent of the population, while 4 states have private water companies serving more than 35 percent of their population (see Figure 1).[15]

While most people in the United States have public tap water, only about half of U.S. water systems are publicly owned (see Figure 3). The reason is that there are many small private systems serving subdivisions and other small communities, while nearly every large city owns its own water system and serves a much larger population.

According to survey data from the U.S. Environmental Protection Agency (EPA), less than a quarter (22.3 percent) of the privately owned systems are for-profit water businesses.[16] The rest are non-profit entities or ancillary systems, which are systems that are owned by entities whose primary function is not water provision (for example, manufactured home parks).[17]

Overall, for-profit water companies own only about 10 percent of U.S. community water systems.[18] The vast majority of the water systems owned by for-profit companies are small, with about 90 percent serving fewer than 3,300 people.[19]

Trends

Nationally, there has been an ongoing shift to public ownership of drinking water services. Between 2007 and 2014, the portion of the population with public water increased from 83 percent to 87 percent (see Table 1).

Over this period, the total number of people served by public systems increased by 10 percent, as public systems added 24 million people to their customer base. Meanwhile, the number of people served by privately owned systems fell by 18 percent, as private companies served 8 million fewer people in 2014 than in 2007 (see Table 1).[20]

One reason for the trend is that the number of private systems decreased 7 percent (see Table 2). There were nearly 1,700 fewer privately owned systems in 2014 than in 2007. The much larger number of public systems remained fairly stable over this period, increasing by just 99 systems.[21] Migration from rural to urban settings and different rates of population growth also could contribute to this trend.

Reports by the U.S. EPA identified earlier declines in private water systems. One EPA report noted a decrease

Table 1. People Served by Public, Private and Mixed Ownership of Community Water Systems, 2007 and 2014

Ownership Type	People Served (Portion of Total)		Increase or Decrease	% Increase (Decrease)
	2007	2014		
Public	237,634,535 (83.0%)	261,745,966 (87%)	24,111,431	10%
Private	44,459,100 (15.5%)	36,338,067 (12%)	-8,121,033	-18%
Public/Private	4,357,569 (1.5%)	4,511,784 (1%)	154,215	4%
Total	**286,451,204**	**302,595,817**	**16,144,613**	**6%**

Table 2. Number of Public, Private and Mixed-Ownership Community Water Systems, 2007 and 2014

Ownership Type	Number of Systems (Portion of Total)		Increase or Decrease	% Increase (Decrease)
	2007	2014		
Public	25,671 (49%)	25,770 (51%)	99	0%
Private	25,081 (48%)	23,395 (46%)	-1,686	-7%
Public/Private	1,358 (3%)	1,266 (3%)	-92	-7%
Total	**52,110**	**50,431**	**-1,679**	**-3%**

in private provision between 2006 and 2008 of about 11 percent.[22] Also, the EPA's 2006 Community Water System Survey found a 9 percent decrease in private ownership of water systems from 2000 to 2006, with the biggest drop, percentagewise, coming from larger systems.[23]

Municipalization — when local governments buy private systems — is a major reason for the decrease in the number of private systems. Local governments frequently purchase small private systems and combine them with their existing networks.

Accountable Service

Accountability is a major reason why many communities seek public ownership of their water and sewer services. Safe and affordable drinking water and sanitation services are essential, and governments have a basic responsibility to provide these services to protect public health and wellbeing. This entails safeguarding water supplies from pollution and other threats, providing sufficient amounts of safe water and charging water service fees that are affordable.[24]

When local governments operate water and sewer systems, elected officials make the major policy decisions that determine the cost, availability and quality of these services. They set rates and decide the type and timing of system improvements to address the needs of their constituents.[25] If residents object to their service, they can exercise their power at the ballot box by electing officials that are more responsive to their concerns.

Private water companies, in contrast, have no responsibility to promote public health and wellbeing.[26] They are accountable first and foremost to their owners and make their investment decisions based on profitability.[27] Because water service is a natural and often legal monopoly,[28] if a private water company charges high rates or provides bad service, customers cannot simply switch to another provider. Rather, they are stuck with the company unless they are able to move to another community, which is neither realistic nor desirable for most people.

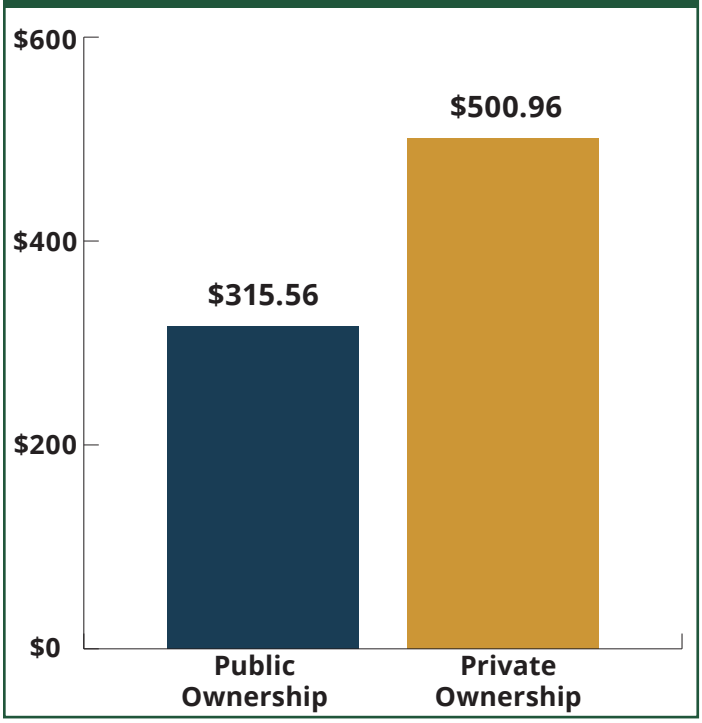
Affordable Service

In order to protect public health and wellbeing, local governments must ensure that water service is affordable for every household in a community. With federal support dwindling, water systems aging and the climate changing, achieving universal access to safe water is an increasingly difficult and crucial task for local governments.

Water itself is a priceless common resource, but there is a cost to treating and distributing water to household taps, as well as to collecting and treating the resulting wastewater. With local control over water and wastewater services, a governing body in the local community is able to decide how to allocate the burden of those costs among different users.[29] Local governments may subsidize water provision to ensure affordable service for their entire population.[30] They could also decide to keep household rates low while charging higher connection fees as a way to promote affordability and discourage sprawling development.[31]

Affordability and accountability go hand in hand. For example, residents can apply political pressure on public officials to keep water rates affordable[32] and to implement affordability programs to assist struggling households. With private ownership, residents have little recourse.

Figure 4: Annual Savings With Public Water
Average Annual Water Bills of Households Using 60,000 Gallons a Year From the 500 Largest Water Systems in the Country, 2015



Water Charges of the 500 Largest Water Systems

An analysis of the 500 largest water systems shows that publicly owned water utilities charge considerably lower rates than their private peers.

Food & Water Watch compiled the rates of the 500 largest community water systems and found that, on average, private, for-profit utilities charged typical households 59 percent more than local governments charged for drinking water service. A typical household, using 60,000 gallons a year, paid $316 for water service from a local government and $501 for service from a private company. That is, private ownership corresponds to about $185 extra each year for the average household (see Figure 4).

Water prices vary across the country, with utilities in the South charging less on average; however, uniformly, private companies had higher prices than government systems (see Figure 5 on page 8). The biggest disparity occurs in the Northeast, where the largest investor-owned utilities are based.

At the state level, the disparities are particularly dramatic in four of the five states with the largest number of private systems (see Figure 6 on page 9).

The survey found that:

- In California, private systems charged 17 percent more than public systems, or an extra $67 a year.
- In Illinois, private systems charged 95 percent more than public systems, or an extra $286 a year.
- In New Jersey, private systems charged 79 percent more than public systems, or an extra $230 a year.
- In New York, private systems charged more than twice as much as public systems, or an extra $260 a year.
- In Pennsylvania, private systems charged 84 percent more than public systems, or an extra $323 a year.

Other surveys of water rates and ownership have had similar findings. An analysis of water rates in California cities in 2003 found that private companies charged about 20 percent more on average.[33] A 2010 survey of the largest utilities in the Great Lakes region indicated that private water utilities charged typical households more than twice as much as municipal utilities did.[34] A survey of water rates in Delaware and surrounding states showed that, in 2011, investor-owned utilities charged 69 percent more than public utilities.[35]

U.S. EPA survey data also suggest that privately owned systems charged households higher rates than publicly owned systems, overall and across size categories.[36] Indeed, it is widely accepted that private ownership of water systems is associated with higher prices.[37]

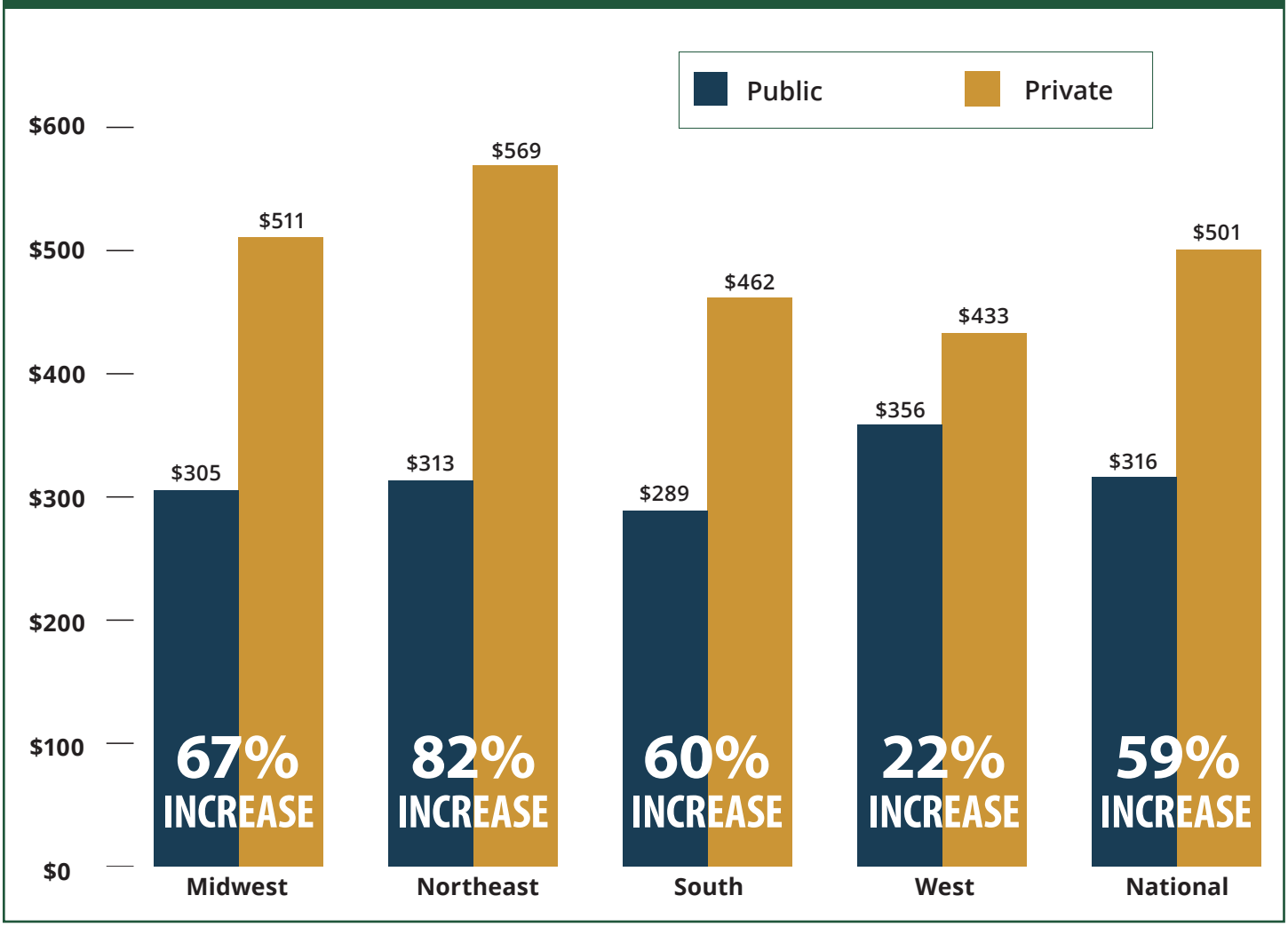
There are a variety of reasons why public water offers customer savings. Most importantly, public entities normally collect only the revenue necessary to improve and run their water systems. Privately owned utilities, however, generate profit by increasing rates. Other factors that make private water more costly for customers include: executive compensation, corporate overhead, subsidies, financing costs, rights of way, and differences in rate-making and financing practices.[38]

Equitable Service

Because they are directly accountable to their residents, publicly owned utilities generally are more concerned than private entities about issues of social equity.[40] Public ownership also is more equitable because it provides customers with clearer legal protections from discrimination, given that the Equal Protection Clause applies only to "state action."[41]

Private companies often steer clear of economically depressed and struggling areas that are less profitable. As

Figure 5: Average Annual Water Bill 2015
For Households Using 60,000 Gallons a Year Based on the 500 Largest Community Water Systems



NOTE: See Appendix for methodology and details.

a result, they generally avoid small and rural communities where household income is low or where water quality problems are significant. They typically target a small system only if it is near their existing infrastructure network and they can take advantage of economies of scale.[42]

Environmentally Responsible Service

A public entity also can be more responsive to its customers — its voters — when it comes to environmental concerns and goals.[43]

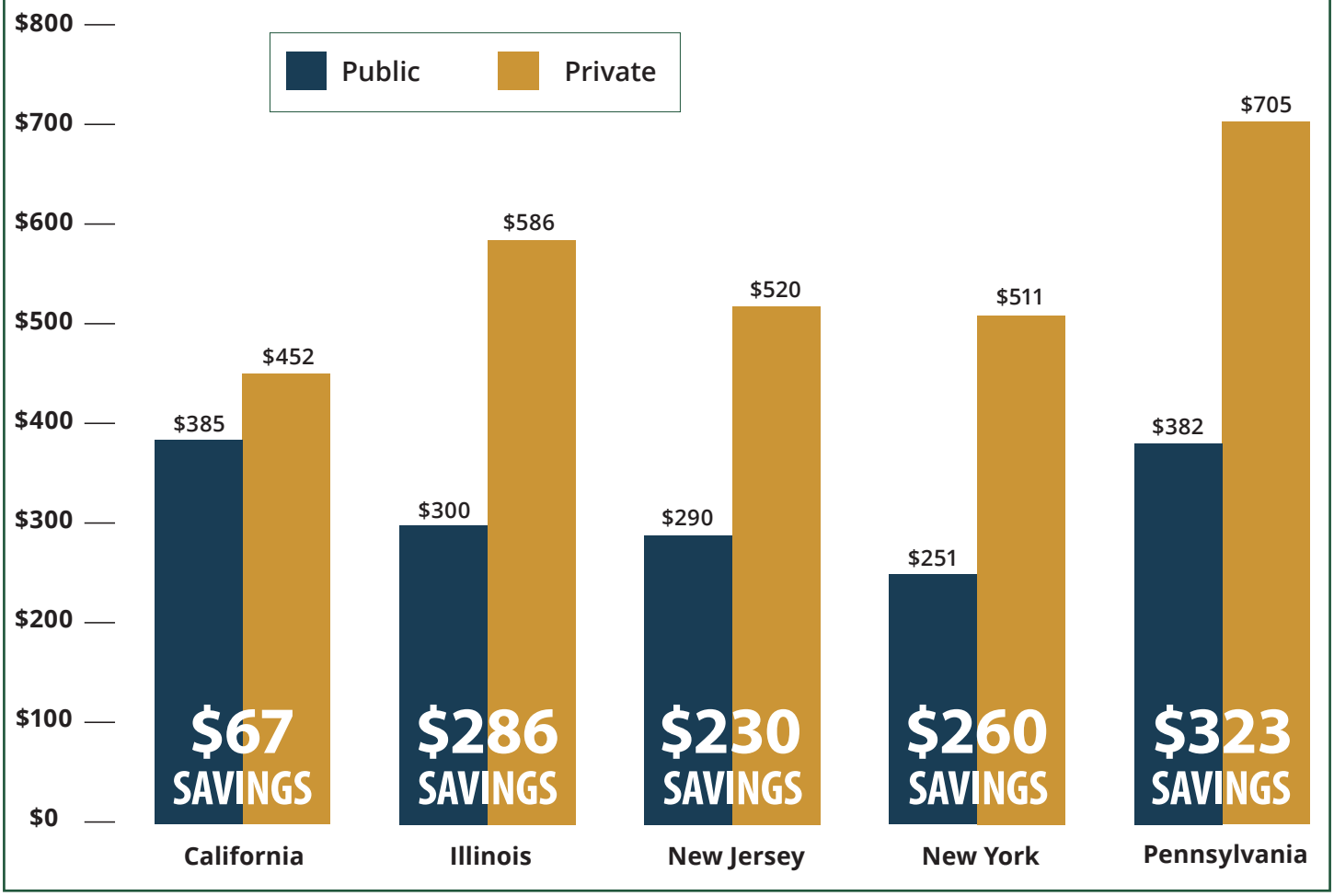
Watershed Protection

Water utilities must work to safeguard their watershed and water supplies from drilling, fracking and coal mining, pipeline spills and oil train accidents, irresponsible logging practices and other disruptive impacts.[44] Because they are a natural buffer from pollution, forests and open lands protect water supplies, improve water quality and reduce drinking water treatment costs in manifest ways.[45] Public sector utilities that have strong citizen engagement tend to have stronger watershed protections.[46]

Some private companies have sold land protecting water supplies to developers.[47] In the 1980s, United Water transferred about 600 acres of land, originally acquired to protect the water supply in Bergen County, New Jersey, to its real estate development subsidiary, which planned to resell the land to developers for substantial profits.[48]

Local governments also have paid the costs of private mismanagement. The city of Willits, California bought its water utility and watershed lands from a private firm in 1984, only to find that the company had failed to make required investments in the water system when it logged the valuable old timber from the land. The city's water

Figure 6: Public Savings Vary by State
Average Annual Water Bills in 2015 for Households Using 60,000 Gallons/Year



system was failing, had many water quality problems and needed a new treatment plant, in large part because of the private company's financial neglect and logging activities.[49]

Water Conservation

Research from California shows that, compared to private water utility companies, publicly owned water utilities more actively encourage and promote water conservation.[50] Private water systems in California have typically waited for the state to mandate conservation before taking action during droughts.[51]

Local Planning and Smart Growth

Public ownership of water and sewer systems allows local governments to direct and plan economic growth and development.[52] A local governing body decides on capital improvements and extensions to new areas.[53] It can coordinate the extension of water and sewer lines to reduce costs or to serve areas with contaminated private wells or that lack adequate fire service.[54]

Public ownership of water systems is necessary to promote smart growth. Sprawling development can harm the water supply because it changes the natural landscape. When rain hits hard pavement, less of it filters naturally into the ground to recharge the underground aquifers that supply water to wells and often connect to rivers, lakes and streams. Instead, the rainwater can be diverted into storm drains and discharged into surface waters.[55] Overall, this can strain local drinking water sources that rely on groundwater, and it can lead to sewer overflows when stormwater overwhelms wastewater collection systems.[56]

Private water companies make money on costly sprawling systems, and real estate developers frequently partner with them to serve new satellite developments.[57] Munic-

ipal systems can also have policies that protect residents from paying to extend service outside the municipal limits to new developments, while private companies often force their customers to subsidize new development.[58]

More broadly, local public control of water utilities is often necessary for successful planning that protects natural resources in that region.[59] Private ownership of water utilities can complicate and interfere with planning activities. There is no built-in incentive to cooperate with neighboring municipalities and government agencies in protecting water resources, managing watersheds, or working on affordability, equity and sustainability.[60]

Effective Service

Local government water and sewer departments typically work together to reduce costs and share resources. Cities may use wastewater trucks to remove snow or conduct other government tasks, and water department employees may help with emergency preparations for intense storms. Private contractors and utilities, in contrast, have no incentive to share equipment and worker hours.[61]

In addition to pooling resources, water and sewer utilities often coordinate with other city departments around transportation projects, urban planning efforts and fire safety, all to more effectively and efficiently protect public

Top Ten Most and Least Expensive Water Systems

Top Ten Most Expensive Water Providers as of January 2015

Rank	Entity	State	Service Population	Ownership	Annual Bill
1	Flint[a]	MI	124,943	Public	$910.05
2	Padre Dam Municipal Water District	CA	96,589	Public	$826.94
3	American Water – West	PA	93,368	Private	$792.84
4	American Water – Pittsburgh	PA	516,411	Private	$792.84
5	American Water – Lake Scranton	PA	134,570	Private	$792.84
6	American Water – Norristown	PA	94,724	Private	$792.84
7	Aqua America – Main	PA	784,939	Private	$782.38
8	Goleta Water District	CA	87,000	Public	$736.62
9	American Water – Monterey	CA	94,700	Private	$716.18
10	American Water - Kanawha Valley	WV	217,959	Private	$710.63

Top Ten Least Expensive Water Providers as of January 2015

Rank	Entity	State	Service Population	Ownership	Annual Bill
491	Toho Water Authority	FL	110,102	Public	$123.96
492	Memphis	TN	671,450	Public	$120.71
493	Medford Water Commission	OR	90,932	Public	$117.84
494	Hagerstown	MD	88,000	Public	$116.48
495	Miami-Dade	FL	2,100,000	Public	$116.46
496	Jefferson Parish – District 1	LA	308,362	Public	$104.40
497	Jefferson Parish – District 2	LA	209,972	Public	$104.40
498	Hempstead	NY	110,000	Public	$101.74
499	Clovis	CA	102,499	Public	$100.80
500	Phoenix	AZ	1,500,000	Public	$84.24

a When the survey was conducted in January 2015, Flint, Michigan had the most expensive water service in the country, but during August 2015, a judge ruled that certain rate increases were unlawful and ordered the city to reduce its rates by 35 percent and to end a service fee.[39]

Note: Annual bills were calculated for households using 60,000 gallons of water a year.

health, safety and welfare.[62] For example, cities can time water main repairs before road repairs to avoid having to repave roads again after digging up water lines.

In recent years, cities such as Kyle, Texas and Fort Worth, Indiana have sought local public control of water systems to improve water quality and supplies. Expensive, low-quality water and bad service can scare away new businesses and hurt economic development,[63] while insufficient water supplies and pressure can put public safety at risk.[64]

Ways Forward

Publicly owned water systems provide the most affordable and equitable service. Government utilities are directly accountable to the people they serve, and they have a fundamental responsibility to promote and protect public health and safety. They are generally more responsive to their community's specific needs and environmental goals, and can best coordinate among different government divisions to achieve gains in public health and welfare.

Public water utilities can further improve their services by:

- Enhancing public input through open and transparent procedures that encourage stakeholder involvement;
- Boosting in-house expertise through targeted hiring, reducing contracting and investing in job training for current staff;
- Implementing water affordability programs that provide credits to low-income households, adjusting their water bills to a level that they can afford to pay;
- Working to ensure source water protection locally and regionally;
- Maximizing services and reducing costs through greater coordination among their departments; and
- Sharing resources and expertise through public-public partnerships with other public sector, labor and non-profit entities.

Our local water systems should not have to go it alone. The federal government has a responsibility to ensure that our local public water and sewer systems receive the support they need. Communities across the country need a dedicated source of federal funding for our water systems to improve water quality, protect the environment, create good jobs and ensure safe, reliable water for generations to come.

With a renewed federal investment in our water resources, robust, responsive and responsible public utilities can best meet the needs of communities and ensure safe and affordable water for all.

Average Annual Household Water Bills, as of January 2015
Based on the 500 Largest Community Water Systems in the United States and Assuming 60,000 Gallons a Year per Household

Region and State	System Ownership		Increase Under Private	
	Public	Private	Amount	Percent
Midwest	**$305.48**	**$511.05**	**$205.57**	**67%**
Illinois	$300.31	$586.33	$286.02	95%
Indiana	$267.04	$407.67	$140.63	53%
Iowa	$270.87	$468.75	$197.88	73%
Kansas	$364.50			
Michigan	$324.10			
Minnesota	$236.49			
Missouri	$357.76	$422.41	$64.65	18%
Nebraska	$224.32			
North Dakota	$255.00			
Ohio	$302.81	$519.52	$216.71	72%
South Dakota	$320.34			
Wisconsin	$246.45			
Northeast	**$313.12**	**$569.35**	**$256.23**	**82%**
Connecticut	$343.02	$459.27	$116.25	34%
Maine	$246.12			
Massachusetts	$297.28			
New Hampshire	$358.59			
New Jersey	$290.01	$519.92	$229.91	79%
New York	$251.05	$510.56	$259.51	103%
Pennsylvania	$382.31	$705.00	$322.69	84%
Rhode Island	$371.78			
South	**$288.89**	**$461.71**	**$172.82**	**60%**
Alabama	$284.87			
Arkansas	$265.70			
Delaware	$375.42	$542.85	$167.43	45%
District of Columbia	$420.12			
Florida	$292.44			
Georgia	$306.27			
Kentucky	$365.06	$478.71	$113.65	31%
Louisiana	$187.39	$277.85	$90.45	48%
Maryland	$228.73			
Mississippi	$257.47			
North Carolina	$287.71			

Average Annual Household Water Bills, as of January 2015 *(continued)*				
Region and State	System Ownership		Increase Under Private	
	Public	Private	Amount	Percent
South	**$288.89**	**$461.71**	**$172.82**	**60%**
Oklahoma	$296.94			
South Carolina	$203.16			
Tennessee	$303.65	$316.57	$12.92	4%
Texas	$290.04			
Virginia	$317.89	$297.48	-$20.41	-6%
West Virginia		$710.63		
West	**$356.25**	**$433.06**	**$76.81**	**22%**
Alaska	$606.48			
Arizona	$247.45	$285.23	$37.78	15%
California	$385.50	$452.25	$66.75	17%
Colorado	$301.41			
Hawaii	$343.08			
Idaho		$254.78		
Montana	$273.26			
Nevada	$428.22			
New Mexico	$261.94			
Oregon	$298.15			
Utah	$231.50			
Washington	$380.45			
Grand Total	**$315.56**	**$500.96**	**$185.40**	**59%**

Note: None of the 500 largest community water systems was located in Vermont or Wyoming.

Appendix B: Rate Survey Methodology

The survey compared the residential water prices of investor-owned utilities and local government-owned utilities.

Identifying the Largest Systems. Using the U.S. EPA's Safe Drinking Water Federal Information System, frozen in October 2013, the 500 largest community water systems were identified as the systems serving the largest number of people.

Exclusions. Systems were excluded if they were primarily bulk water sellers (systems serving large populations but fewer than 100 customers), if they were Federal or Native American-owned systems and if they were not located in U.S. states and the District of Columbia. Three systems were private, non-profit entities, and, although their rates were collected, they were excluded from the rate analysis.

Data Collection. During January 2015, system water rates were compiled from utility websites and local government ordinances, if available. In three cases, the rates were not found online, and they were found by calling the utility's customer service line. All source documents are on file with Food & Water Watch.

Household Bill Calculations. Annual water bills were calculated assuming that a typical household uses about 60,000 gallons or 80.2083 hundred cubic feet a year of indoor water. For systems with water budgets, all water use was assumed to be indoor usage. Seasonal rates were weighted to arrive at an annual average. Rates were calculated for the main service division or inside jurisdiction. The annual bill includes special water-related fees and surcharges, and public fire protection charges if those fees were charged to all households (excluding private fire service protection lines and hydrants).

NOVEMBER | 2014

TROUBLED WATERS:

Misleading industry PR and the case for public water

CORPORATE ACCOUNTABILITY INTERNATIONAL is a member-powered organization that protects human rights, public health, and the environment by holding corporations accountable. Founded in 1977, the organization makes an enormous impact—as proven by its successful track record of securing lifesaving victories in the face of overwhelming power, money, and influence.

The organization, through its **PUBLIC WATER WORKS**! campaign, is playing a leadership role in the global movement to advance and protect the human right to water, secure people's access to water, and preserve and protect water resources and systems for the public good and as an ecological trust.

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THE PUBLIC SERVICES INTERNATIONAL RESEARCH UNIT (PSIRU) investigates the impact of privatization and liberalization on public services, with a specific focus on water, energy, waste management, health, and social care sectors (www.psiru.org). Through its global database on water service reform, PSIRU has gathered and analyzed empirical evidence from the last 40 years on the international experience with water privatization and public-private partnerships (PPPs). This data relates to the economic, social, and environmental impacts of water privatization and PPPs on the interests of local goverments and communities in high-, middle-, and low-income countries. Other research topics include the function and structure of public services, the strategies of multinational companies, and the influence of international financial institutions on public services. PSIRU is based in the Business Faculty, University of Greenwich, London, U.K..

EMANUELE LOBINA is Principal Lecturer, Public Services International Research Unit (PSIRU), Business Faculty, University of Greenwich, U.K.. He joined PSIRU in 1998 and has written extensively on the international experience with water service reform. He is regularly commissioned to do research work and provide policy advice to international organizations, central and local governments, professional associations, trade unions, and civic organizations.

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EXECUTIVE SUMMARY

BY KELLE LOUAILLIER, EXECUTIVE DIRECTOR
CORPORATE ACCOUNTABILITY INTERNATIONAL

When it comes to the nation's most essential public service, mayors and municipal officials face a momentous challenge.

Local governments are investing in public water systems at all-time highs, but in the absence of adequate federal support, many systems still face serious infrastructure reinvestment gaps. Over the next 20 years, U.S. water systems will likely require a staggering $2.8 to $4.8 trillion investment.

In response, private water corporations are waging a national campaign to present privatization, in its many forms, as a cure-all that will reduce costs and increase efficiency.

Even where public water systems are thriving, the private water industry is pressuring public officials to pursue private water contracts repackaged in terms deemed less offensive to a skeptical public.

But are public-private partnerships (PPPs), and other euphemisms used to describe water privatization, a way forward?

The key findings of this report indicate no. All too often, promised cost savings fail to materialize or come at the expense of deferred infrastructure maintenance, skyrocketing water rates, and risks to public health.

The current trend toward remunicipalization (return of previously privatized systems to local, public control) of water systems is a primary indicator that privatization and PPPs are not the answer. Since 2003, 33 U.S. municipalities have remunicipalized their water systems. Five have done so in 2014 alone. And an additional 10 have set the wheels in motion to do so this year through legal and/or administrative action. This closely mirrors the accelerating global remunicipalization trend. Paris, where the two largest global private water corporations (Veolia and Suez) originated and are headquartered, has notably led the charge to remunicipalize, saving tens of millions of dollars since returning its water system to public control.

As this report finds, private water contracts can pose substantial economic, legal, and political risk to local officials and the communities they serve. The findings come through review and analysis of lobbying reports, Congressional records, city case studies, and empirical evidence drawn from research by the Public Services International Research Unit (PSIRU). They show the private water industry depends on political interference, misleading marketing, and lack of public oversight to secure its contracts. This report exposes the private water industry's tactics and makes the case for democratically governed and sustainably managed public water systems, providing public officials with a set of examples and recommendations to bolster public water.

Water privatization in practice, but not in name

Private water corporations have sought to distance themselves from the troubled term "privatization," given its deep-seated unpopularity in the U.S and across the globe. The most popular and, invariably, most heavily focus-grouped euphemism used by the private water industry is PPP, or public-private partnership. Yet leading academic and research institutions, including the National Research Council, consider water PPPs a synonym for privatization, as do the overwhelming majority of academics and experts focused on water systems.

It is under the promise of the more palatable and innovative-sounding PPP that water giants are entering into contracts with cities. Yet what's innovative is the marketing—not the model. For example, Suez and Veolia are promoting contract models that offer large, upfront payments financed by private equity firms. In exchange, the city leases its water system to Suez, Veolia, and/or a private equity firm for the long term. In France, where Veolia and Suez are based, this type of contract model was outlawed two decades ago by

Photo credit: Eric Allix, Flickr, Creative Commons

PHOTO: A water main break in Chicago. Water systems across the country are in serious need of infrastructure reinvestment. But findings show that private water contracts including PPPs, rather than being a solution to this crisis, in fact pose substantial economic, legal, and political risk to local officials and the communities they serve.

anti-corruption legislation because upfront payments distorted the decision-making process. Yet, Suez's 2012 contract in Bayonne, New Jersey and Veolia's contract with Rialto, California in the same year have become the corporations' flagships for marketing this model in the United States.

But in both cities, residents have paid a heavy price. As detailed in this report, United Water's contract with Bayonne involved an initial 8.5 percent rate hike followed by a two year rate freeze and a nearly 4 percent hike annually over the life of the contract. In Rialto, the water privatization contract is already costing the local community millions more each year than under public operation and is set to more than double rates by 2016.

As part of the repackaging trend, Veolia has also developed new foot-in-the-door strategies for major cities, including "Peer Performance Solutions (PPS)," marketed as efficiency or operations consulting. Yet, Veolia's own operation of major city water systems, from Indianapolis to Paris, has been ridden with controversy, as documented in this report.

Policy interference the precursor to and facilitator of privatization

The tactics used by private water corporations to gain long-term contracts include corruption, political spending, lobbying, marketing of illusory fiscal gains, and legal and extra-legal disputes. The most controversial tactics used by private water corporations to maximize profits during the life of a contract and to increase their market share rely on lack of transparency.

At the federal level, the private water industry and its front groups have lobbied to amend the tax code in its favor. It has also lobbied for legislation that would open the doors for private water corporations to funnel public finance, essential for public water systems, to private water projects. The implementation of such changes could further destabilize the long-term financial viability of public water systems.

At the state level, private water corporations have used their political influence to limit democratic oversight and accountability of private water projects. Nowhere is this clearer than in New Jersey, where Suez's United Water is headquartered. From 2012 to 2013 alone, the corporation lobbied members of the legislature to oppose four state-level bills that, had they been enacted, would have safeguarded cities and public health.

At the local level, Veolia, Suez's United Water, and other water corporations have a long track record of attempting to secure private water contracts with minimal public discourse. At national forums where public officials gather, private water corporations promote their favored privatization deals (marketed as solutions for the challenges faced by mayors, public officials, and their communities) away from the scrutiny of media and the public.

The political machinations of private water corporations are an attempt to create a resurgence of water privatization despite its track record of failure and inherent flaws.

Growing proof of the false promise of privatization

There is a reason why only 8 percent of U.S. water systems are operated by private water corporations and why 90 percent of the largest cities around the globe are under public control. Water systems are by nature local monopolies, and they are vital to

public health and safety. To this end, delegating control, operation, and decision-making to private entities undermines the democratic governance and sustainable management of public water systems. No matter how the private sector frames its intentions, its priority is market development over community development, profit maximization over the public interest. Private water corporations have a fiduciary obligation to maximize returns to shareholders. To meet this obligation, they focus on a) weakening their greatest competitor, the public water sector, b) opening up the water market and creating business opportunities for themselves, and c) removing as many obstacles as possible to the profitability of their operations.

And as this report draws forward, empirical evidence demonstrates that the arguments most often made to justify private water contracts are deeply flawed, including the argument that private water corporations are more efficient than the public sector. The reality is private contracts and commercial law shield private water corporations from nearly all risks, meaning they have no incentive to behave efficiently. Recent studies have confirmed this reality. Studies have also found that private water corporations have a track record of raising rates and failing to invest adequately in water systems. The private sector's profit-maximization imperative systematically results in precious financial resources being diverted to shareholders in the form of dividends.

What's more, private water corporations perform no better on technical and economic issues, charging higher prices than public water utilities. In France, the price of private water has proved 16 percent higher than public-sector-provisioned water. And in the United Kingdom, the great experiment in water privatization of the last two decades has resulted in price increases of 50 percent, even as operating costs have remained unchanged.

In spite of industry promises to contribute to the long-term sustainability of water infrastructure, private water corporations contribute negligible amounts of private finance toward this. Instead they seek opportunities to use public-investment finance—a source cities don't need private industry to access. Even Veolia Environnement's CEO Antoine Frérot validates as much, having publicly stated that the role of a contractor is to manage infrastructure, not to finance it.

Cities in private water contracts can also face considerable financial and legal risks, including contract renegotiation and termination. The private water industry's strategy around the globe has been to lowball contract bids with the aim of renegotiating contracts for more favorable terms, even in the first few years. One World Bank study for example found that two-thirds of private water contracts reviewed in Latin America were renegotiated within the first two years.

Not surprisingly, the experiences of cities from Atlanta to Indianapolis and Stockton to Camden have been mirrored in countries from Italy to China and Germany to Canada. Around the globe privatization has resulted in the rate hikes, environmental damage, a reduced quality of service, and deep costs to the cities saddled with contracts. This is to say, public officials should be wary of importing private water "solutions" that have failed cities across high-income countries, not to speak of the even more dire failings across cities in low-income countries, such as in Nagpur, India—one of the few large cities to privatize water since 2006.

Solutions for bolstering public water

Public officials across the U.S. have found viable, public water solutions that strengthen public water systems.

As Cornell University Professor Mildred Warner documents, far more municipalities are improving and maintaining drinking water and sewage systems through inter-municipal cooperation than PPPs. As the report details, this cooperation ranges from pooled purchases to save money, as in the case of small Maryland communities; to shared infrastructure projects, as in the case of a Massachusetts water treatment facility. Information sharing among public water systems is also an important way for water

Photo credit: iStock/Terry J Alcorn

PHOTO: A public utility technician makes note of water pressure. Public officials around the country are implementing public solutions to strengthen water systems in their communities, including through public-public partnerships.

systems to thrive and face today's challenges. Conversely, given the proprietary nature of privatization contracts, collaborative approaches and information sharing threaten the commercial interests of private water corporations.

Cities from Fort Worth, Texas to Redding, California have put water privatization proposals under careful scrutiny. In doing so, they have found that they should continue public operation and at times, partner with the public systems to continue improving operations.

At the same time, communities from Gloucester, Massachusetts to Stockton, California to Lazio, Italy are passing policies to strengthen public involvement in water management. As the report details, these policy options range from ordinances requiring a public vote on privatization contracts to citizen water boards, which participate in public water system governance.

In light of the evidence provided, this report recommends that public officials—the stewards of our public water systems—increase public participation and accountability in decision-making on water services. It also equips all city decision-makers with documented outcomes and empirical evidence regarding water privatization and PPPs. Finally, it recommends that officials follow the lead of cities around the globe that have strengthened public water through remunicipalization, public sector collaboration, in-house restructuring, and pro-public water policies. Local governments and city officials recognize that water is our most essential resource and are already investing in public water systems at all-time highs. They should continue to recognize the importance of public water by ensuring all decisions on water management and operation are made transparently, democratically, and with comprehensive information and investigation.